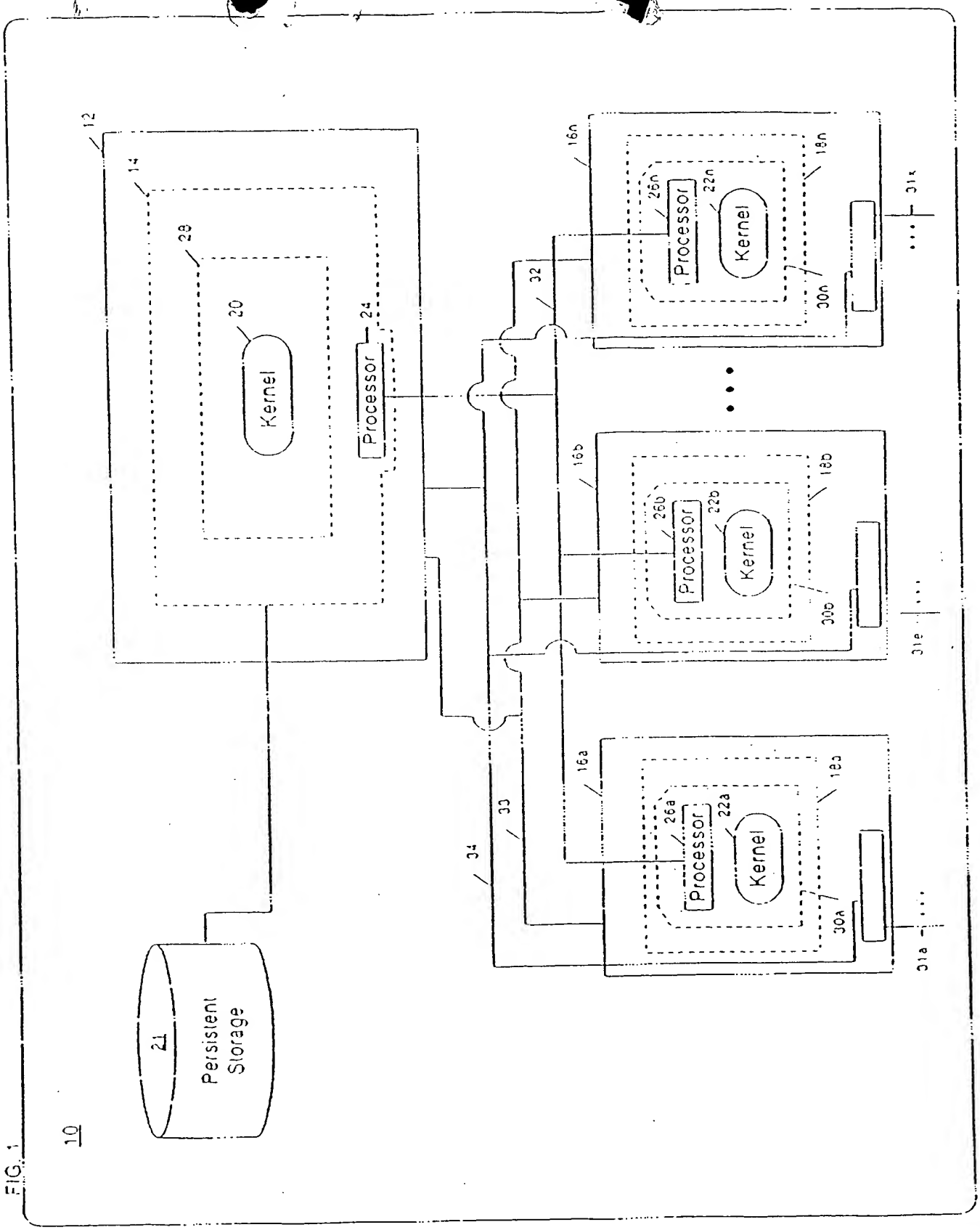


FIG. 1

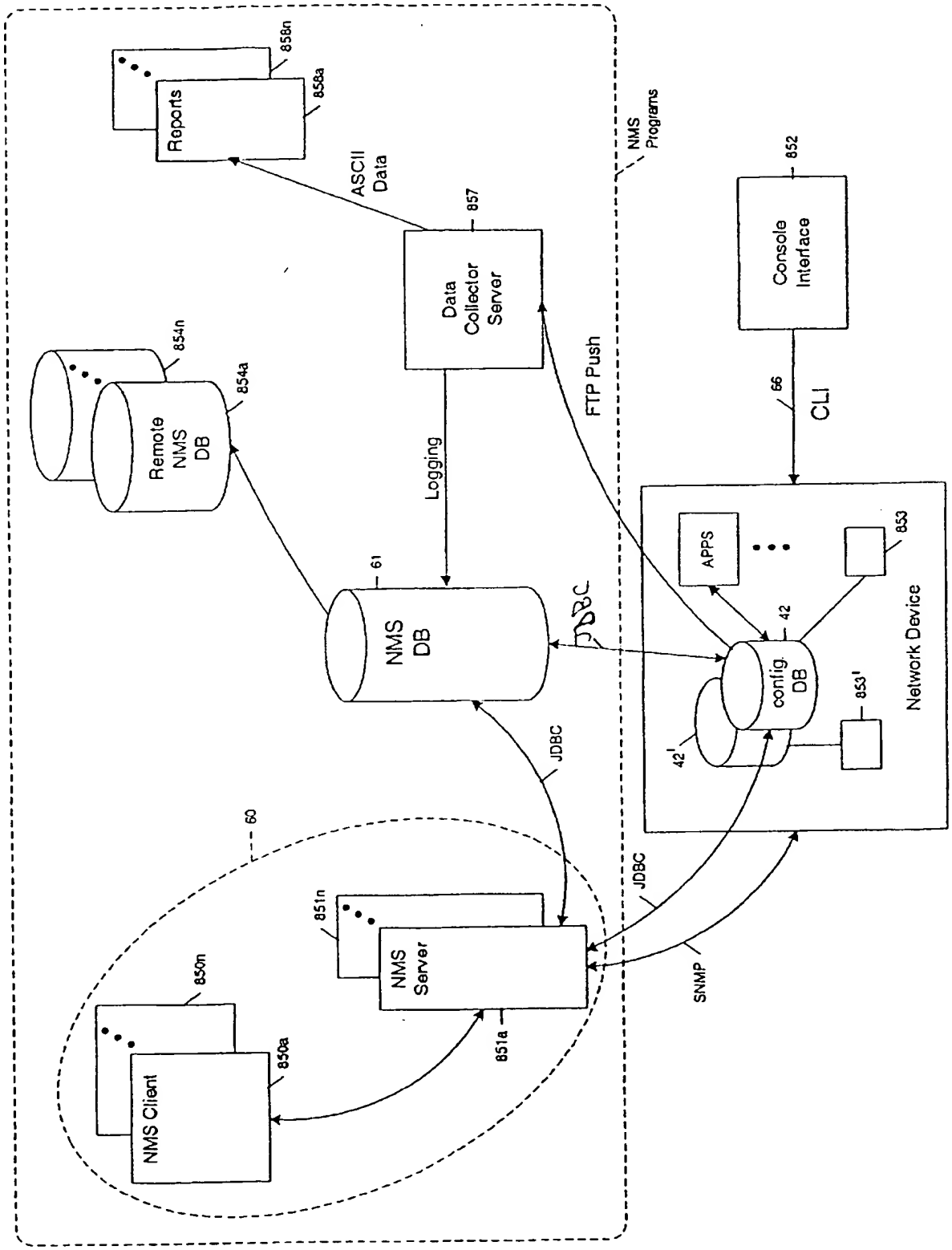

NMS Programs
Reports
858n
858a
ASCII Data
Data Collector Server
857
Console Interface
852
FTP Push
Logging
CLI
66
Remote NMS DB
854n
854a
NMS DB
61
JDBC
APPS
853
Network Device
42
config DB
42'
853'
JDBC
60
NMS Server
851n
851a
SNMP
NMS Client
850n
850a

Fig. 2a

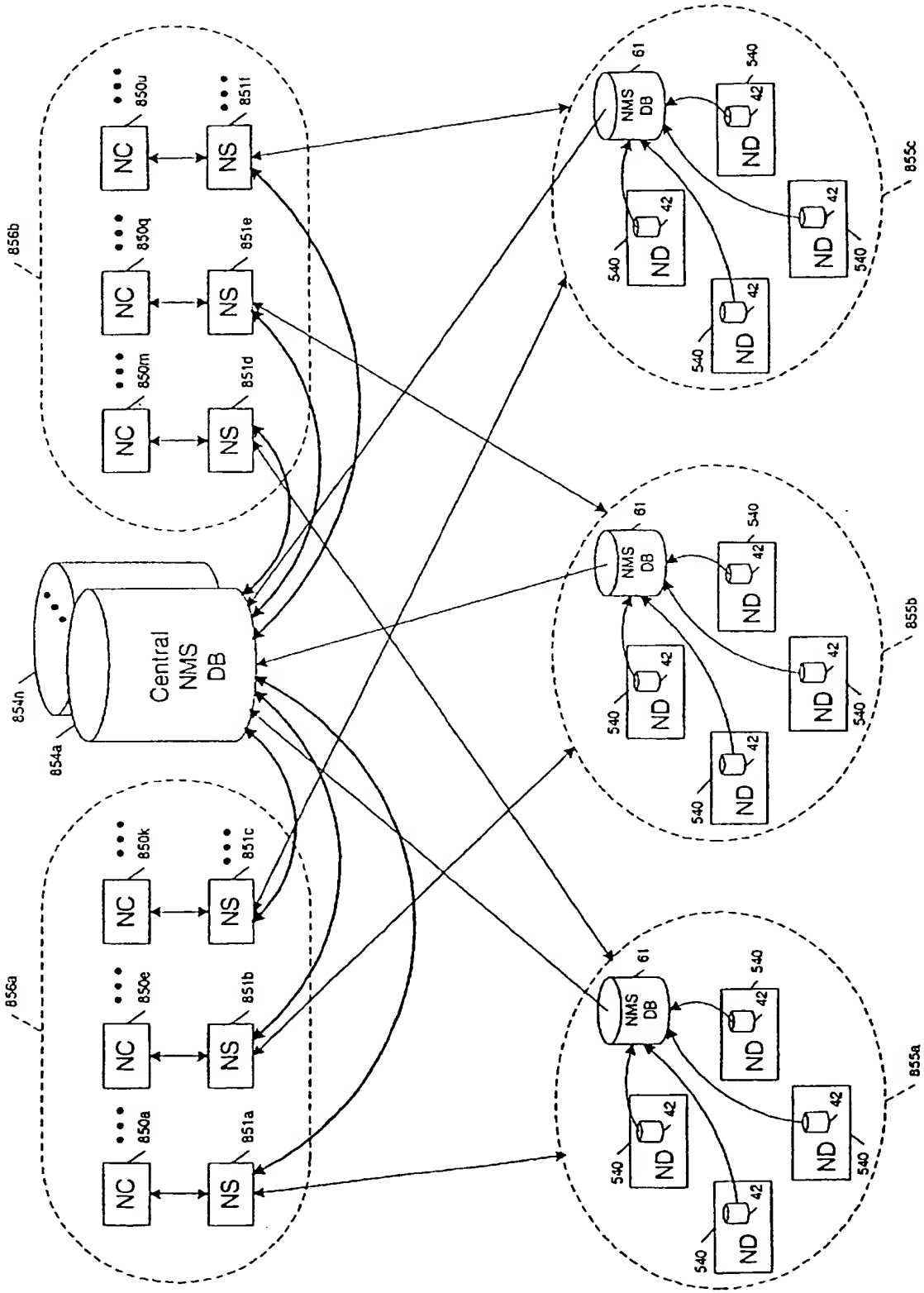

Central NMS DB
854n
854a
856a
856b
855a
855b
855c
NC
NS
ND
NMS DB
850a
850e
850k
851a
851b
851c
850m
850q
850J
851d
851e
851l
540
42
61

Fig. 2b

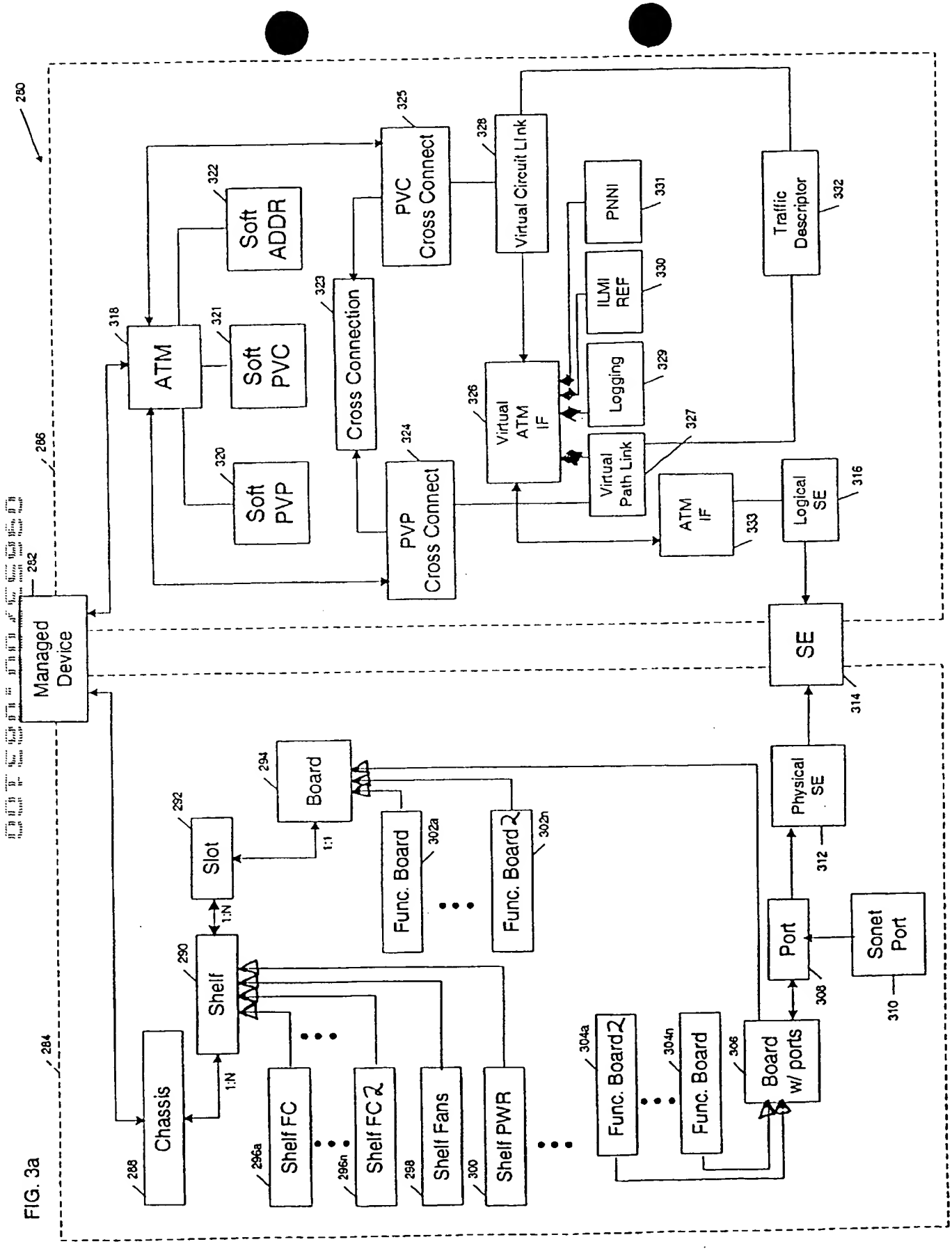

280
Managed Device
282
286
ATM
318
Soft PVP
320
Soft PVC
321
Soft ADDR
322
Cross Connection
323
PVP Cross Connect
324
PVC Cross Connect
325
Virtual ATM IF
326
Virtual Path Link
327
Virtual Circuit Link
328
Logging
329
ILMI REF
330
PNNI
331
Traffic Descriptor
332
ATM IF
333
Logical SE
316
SE
314
Physical SE
312
Port
308
Sonet Port
310
Board w/ ports
306
Func. Board
304n
Func. Board
304a
Shelf PWR
300
Shelf Fans
298
Shelf FC 2
296n
Shelf FC
296a
Chassis
288
284
Shelf
290
1:N
Slot
292
1:N
Board
294
1:1
Func. Board
302a
Func. Board
302n

FIG. 3a

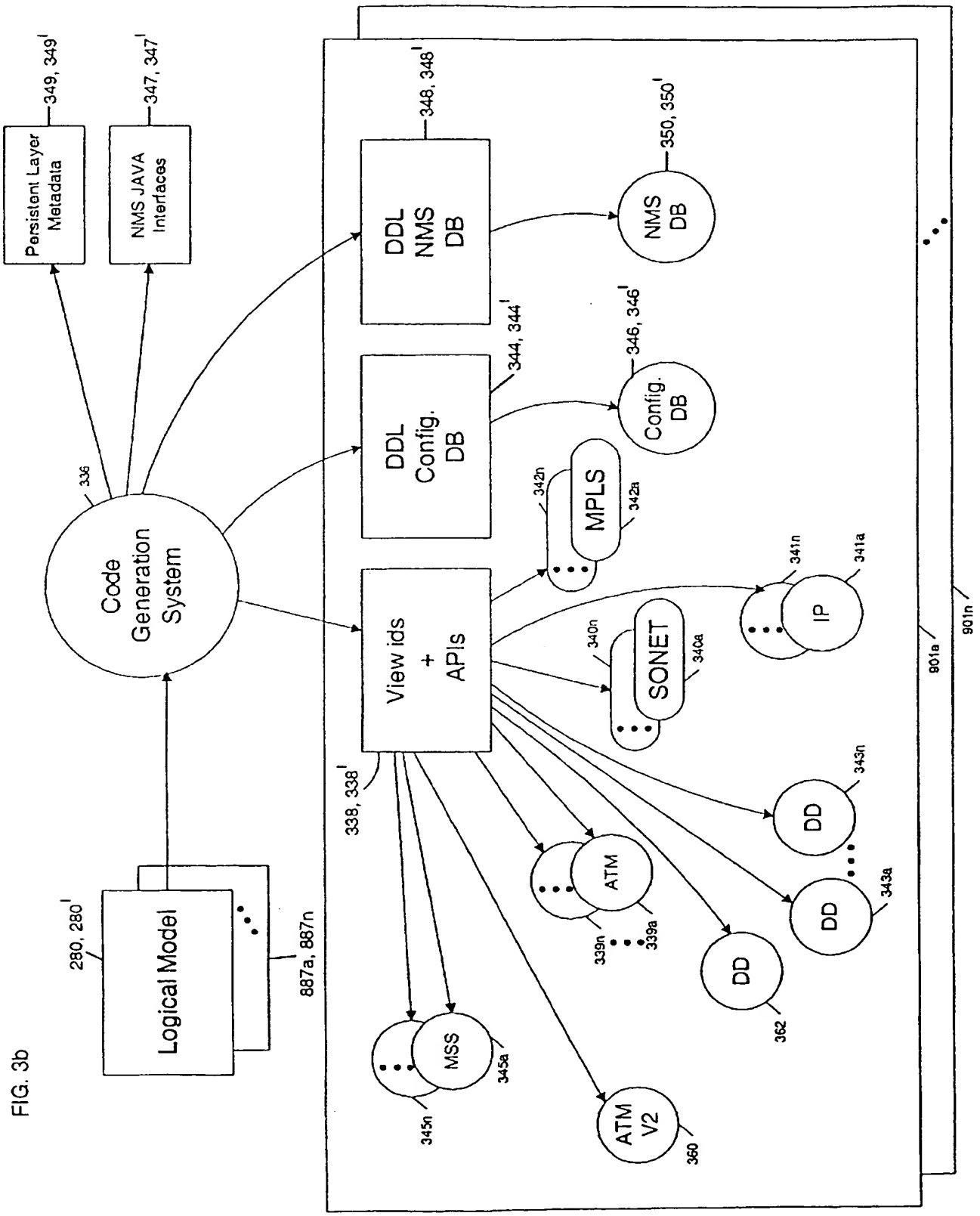

Persistent Layer Metadata
349, 349'
NMS JAVA Interfaces
347, 347'
DDL NMS DB
348, 348'
NMS DB
350, 350'
DDL Config. DB
344, 344'
Config. DB
346, 346'
Code Generation System
336
MPLS
342n
342a
View ids + APIs
338, 338'
SONET
340n
340a
IP
341n
341a
ATM
339n
339a
DD
343n
DD
343a
DD
362
MSS
345n
345a
ATM V2
360
Logical Model
280, 280'
887a, 887n
901a
901n

FIG. 3b

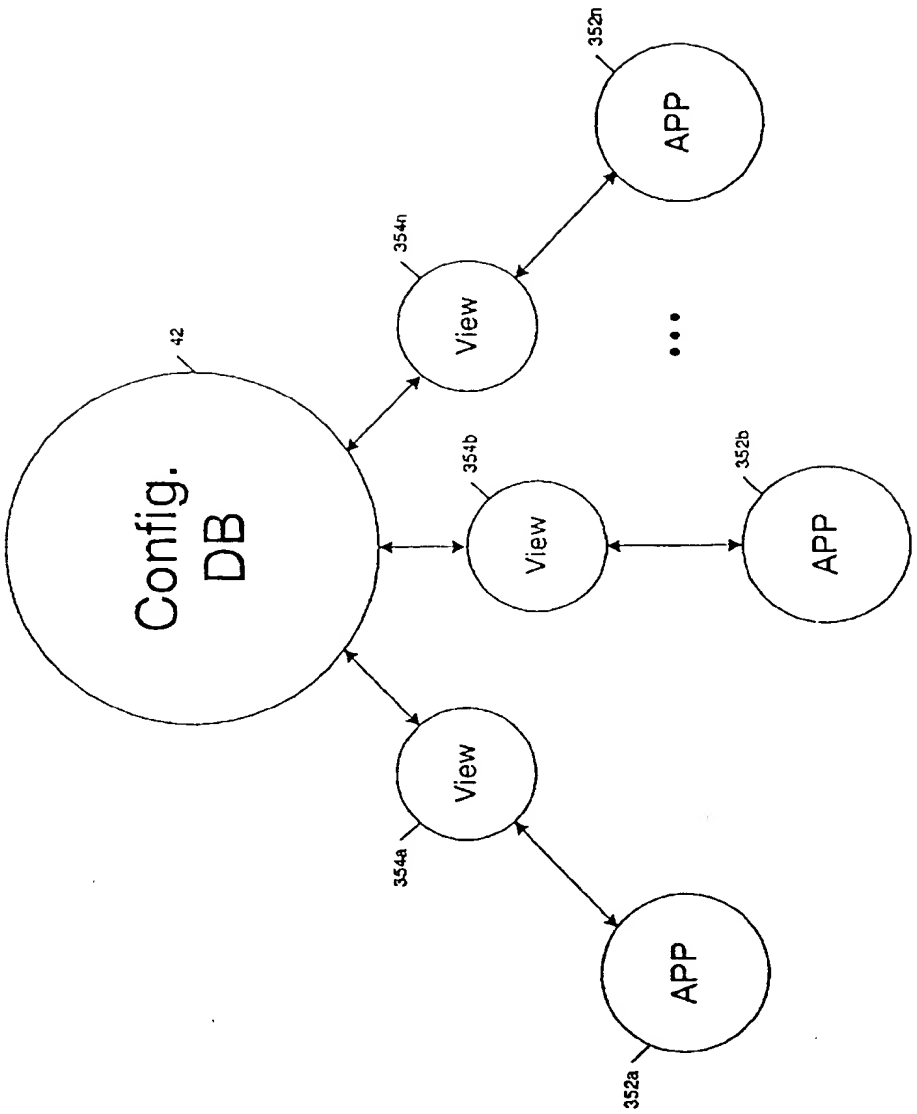
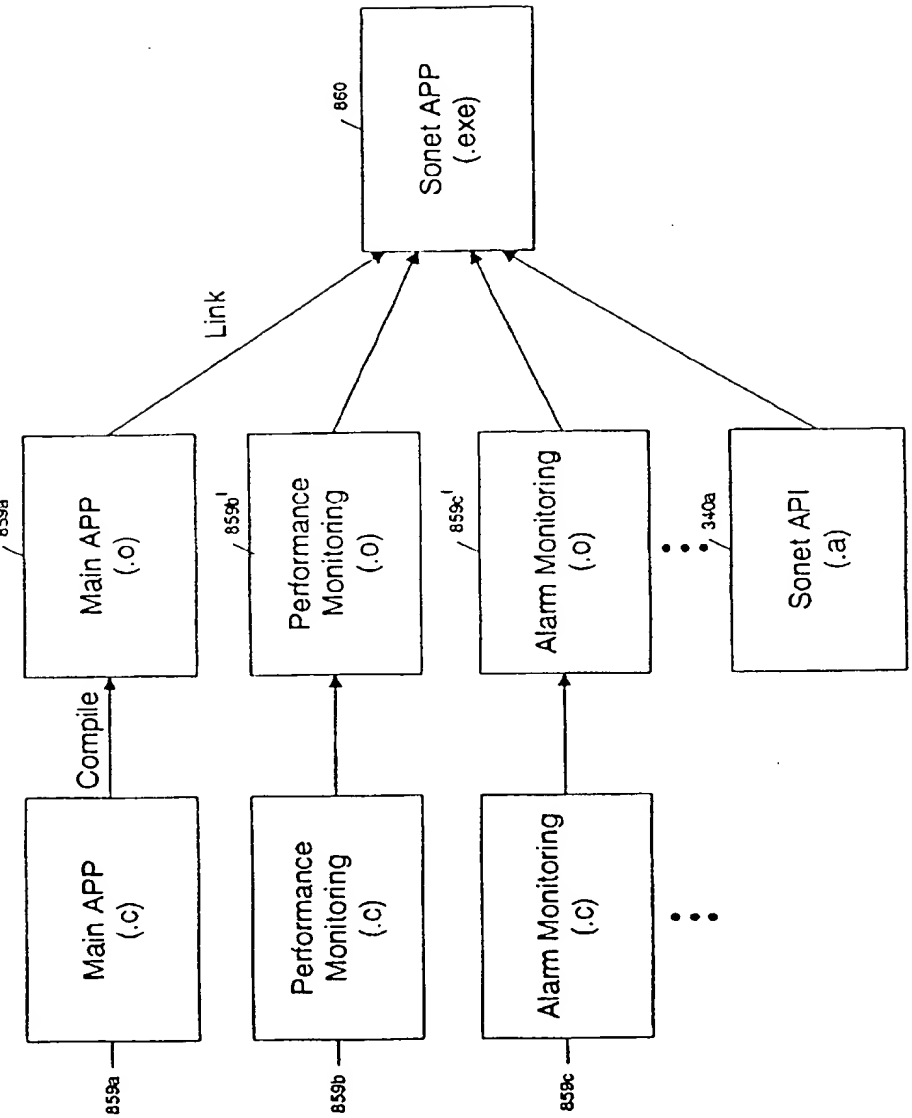


FIG. 3c

Fig. 3d


Build SONET Application
Compile
Link
Main APP (.c)
Performance Monitoring (.c)
Alarm Monitoring (.c)
Main APP (.o)
Performance Monitoring (.o)
Alarm Monitoring (.o)
Sonet API (.a)
Sonet APP (.exe)
859a
859b
859c
859a'
859b'
859c'
340a
860

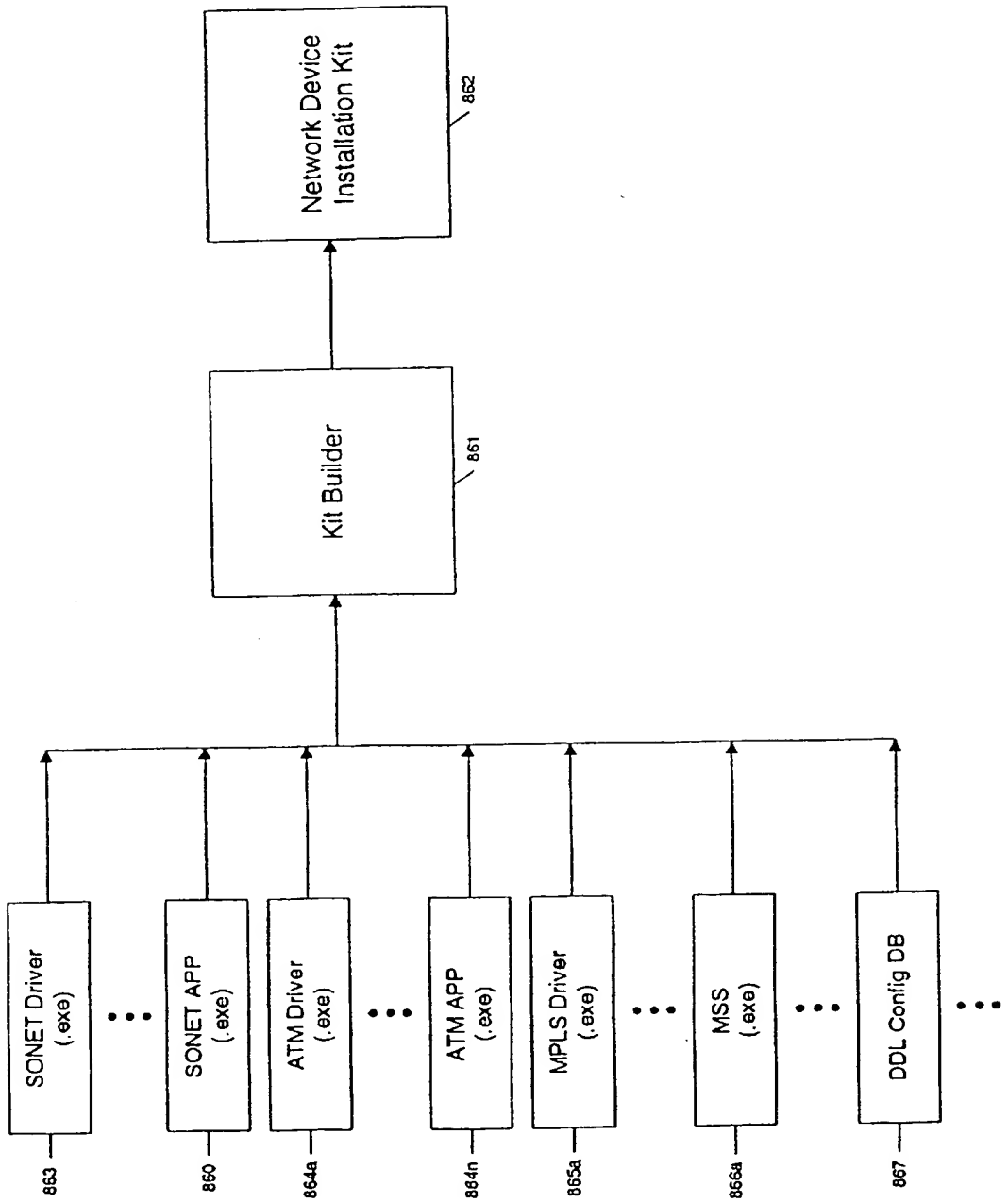
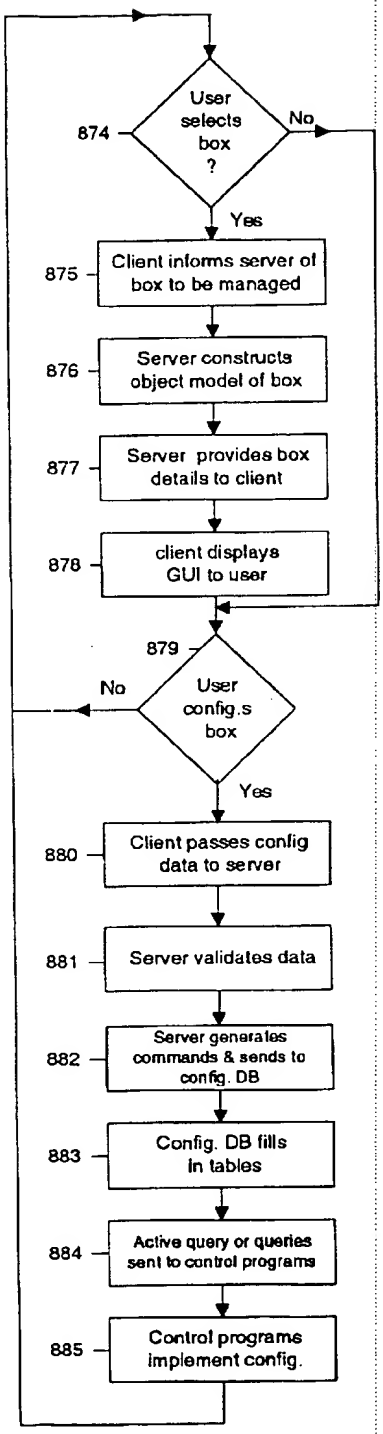

Network Device Installation Kit
862
Kit Builder
861
SONET Driver (.exe)
SONET APP (.exe)
ATM Driver (.exe)
ATM APP (.exe)
MPLS Driver (.exe)
MSS (.exe)
DDL Config DB
863
860
864a
864n
865a
866a
867

Fig. 3e

Fig. 3B

NMS Installation Kit
871
Kit Builder
861
DDL NMS DB
868
NMS JAVA Interfaces
869
Persistent Layer Metadata
870
NMS Server
865
NMS Client
866

Fig. 3g


User selects box ?
874
No
Yes
Client informs server of box to be managed
875
Server constructs object model of box
876
Server provides box details to client
877
client displays GUI to user
878
879
User config.s box
No
Yes
Client passes config data to server
880
Server validates data
881
Server generates commands & sends to config. DB
882
Config. DB fills in tables
883
Active query or queries sent to control programs
884
Control programs implement config.
885

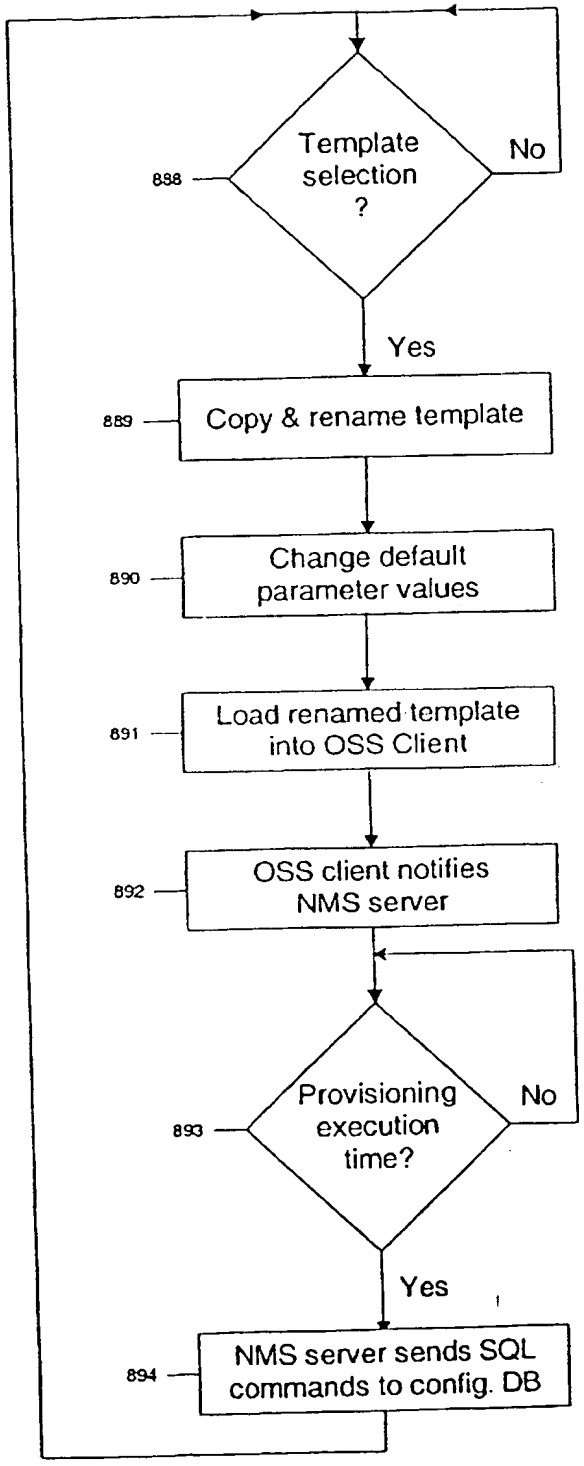


Fig. 3h

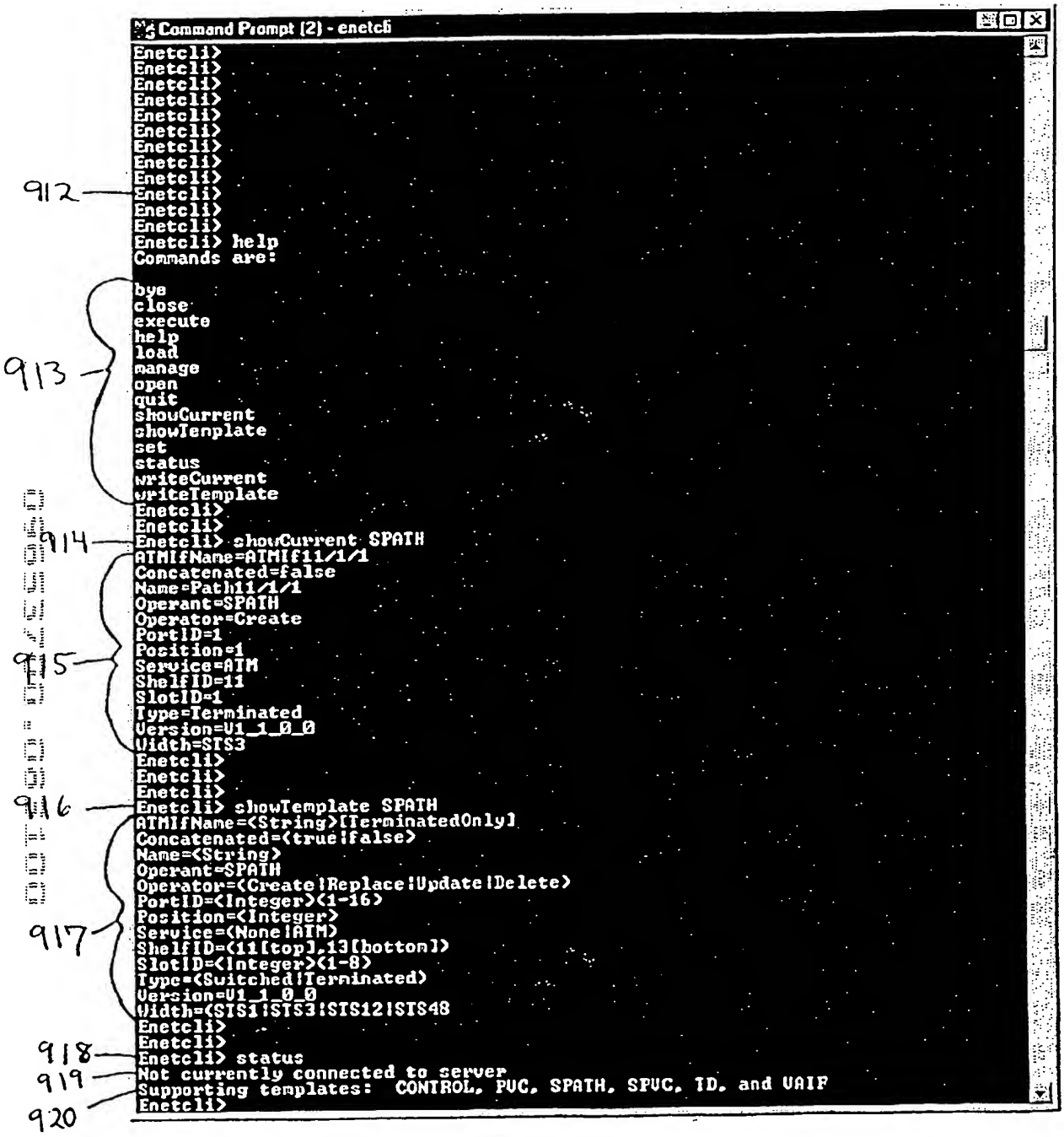

Command Prompt (2) - enetcli
Enetcli>
Enetcli> help
Commands are:
bye
close
execute
help
load
manage
open
quit
showCurrent
showTemplate
set
status
writeCurrent
writeTemplate
Enetcli> showCurrent SPATH
ATMIfName=ATMIf11/1/1
Concatenated=false
Name=Path11/1/1
Operant=SPATH
Operator=Create
PortID=1
Position=1
Service=ATM
ShelfID=11
SlotID=1
Type=Terminated
Version=V1_1_0_0
Width=STS3
Enetcli> showTemplate SPATH
ATMIfName=<String>[TerminatedOnly]
Concatenated=<true|false>
Name=<String>
Operant=SPATH
Operator=<Create|Replace|Update|Delete>
PortID=<Integer><1-16>
Position=<Integer>
Service=<None|ATM>
ShelfID=<11[top],13[bottom]>
SlotID=<Integer><1-8>
Type=<Switched|Terminated>
Version=V1_1_0_0
Width=<STS1|STS3|STS12|STS48
Enetcli> status
Not currently connected to server
Supporting templates: CONTROL, PVC, SPATH, SPVC, TD, and VAIF
Enetcli>
912
913
914
915
916
917
918
919
920

Fig. 3i

Fig. 3j

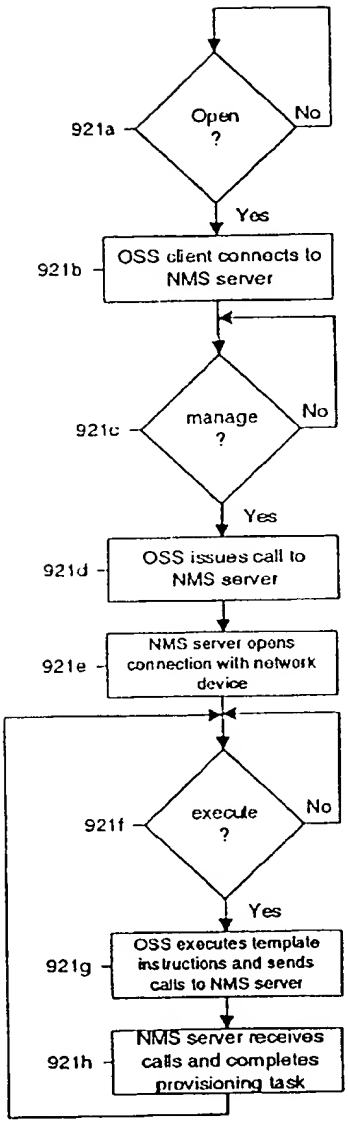

921a
Open ?
No
Yes
921b
OSS client connects to NMS server
921c
manage ?
No
Yes
921d
OSS issues call to NMS server
921e
NMS server opens connection with network device
921f
execute ?
No
Yes
921g
OSS executes template instructions and sends calls to NMS server
921h
NMS server receives calls and completes provisioning task

Fig. 3K

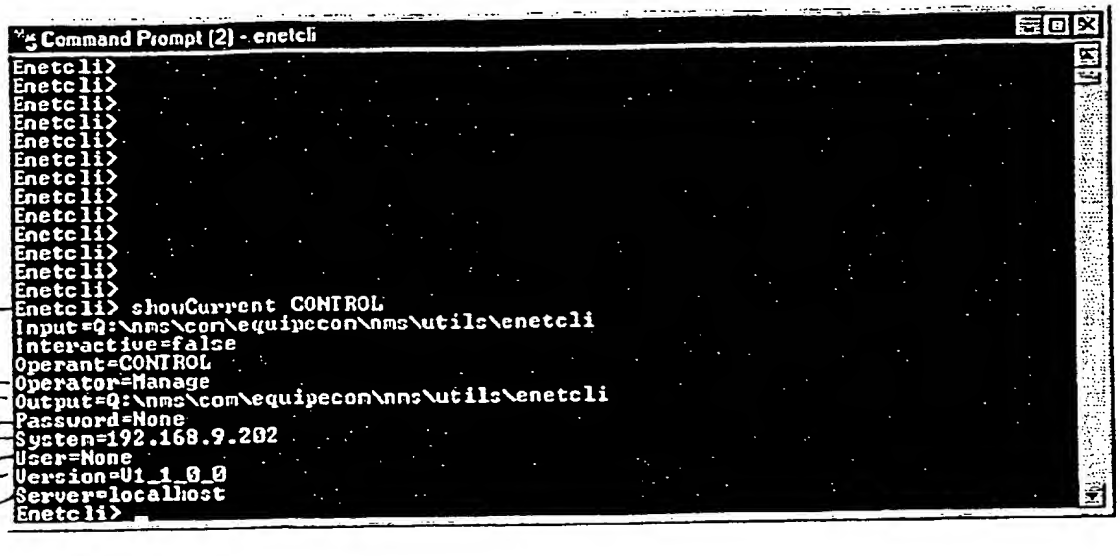

Command Prompt (2) - enetcli
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli>
Enetcli> showCurrent CONTROL
Input=Q:\nms\com\equipecon\nms\utils\enetcli
Interactive=false
Operant=CONTROL
Operator=Manage
Output=Q:\nms\com\equipecon\nms\utils\enetcli
Password=None
System=192.168.9.202
User=None
Version=V1_1_0_0
Server=localhost
Enetcli>
922
923d
923f
923c
923e
923b
923g
923a

Fig. 3L

924 BATCH

Operant=BATCH
Operator=Execute
Version=V1_1_0
924a—Task1=execute-SPATH
924b—Task2=execute-PVC
924c—Task3=execute-SPVC
924d—Task4=load-SPVC-spvc1
924e—Task5=execute-SPVC
924f—Task6=load-SPVC-spvc2
924e—Task7=execute-SPVC
.
.
.
924g—Task50=set-SPATH-PortID-3
924h—Task51=execute-SPATH
924i—Task52=set-SPATH-SlotID-2
924j—Task53=execute-SPATH

Fig. 3M

925

Operant=BATCH
Operator=Execute
Version=V1_1_0_0
925a—Task1=execute-CONTROL
925b—Task2=execute-SPATH
925c—Task3=set-SPATH-PortID-3
925d—Task4=execute-SPATH
.
.
.
925e—Task61=set-CONTROL-System-192.168.9.201
925f—Task62=execute-CONTROL
925g—Task63=execute-SPATH
.
.
.
925h—Task108=close
925i—Task109=set-CONTROL-Server-Server1
925j—Task110=set-CONTROL-System-192.168.8.200
925k—Task111=execute-CONTROL
925l—Task112=execute-SPATH
.
.
.

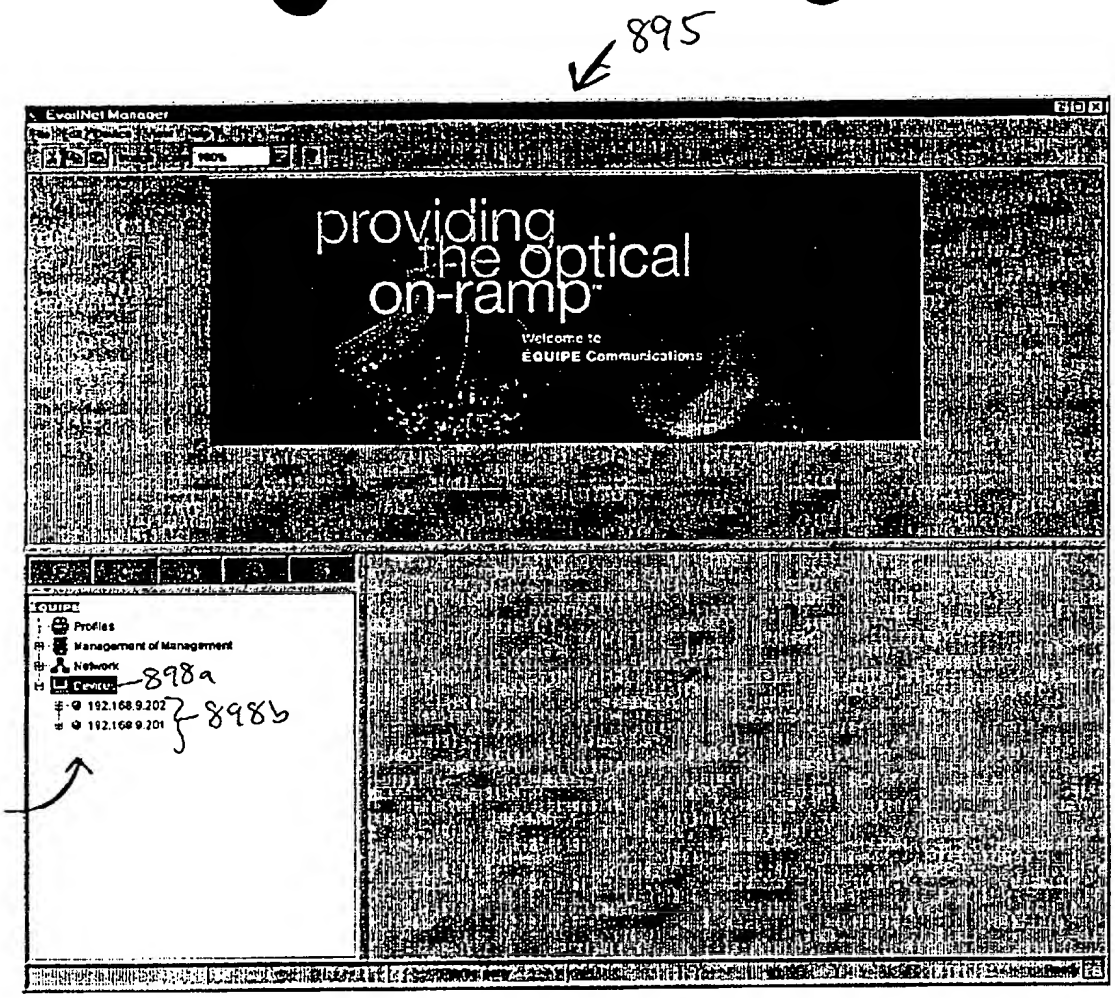

895
providing the optical on-ramp
Welcome to
EQUIPE Communications
Profiles
Management of Management
Network
Device
192.168.9.202
192.168.9.201
898a
898b
898

Fig. 4a

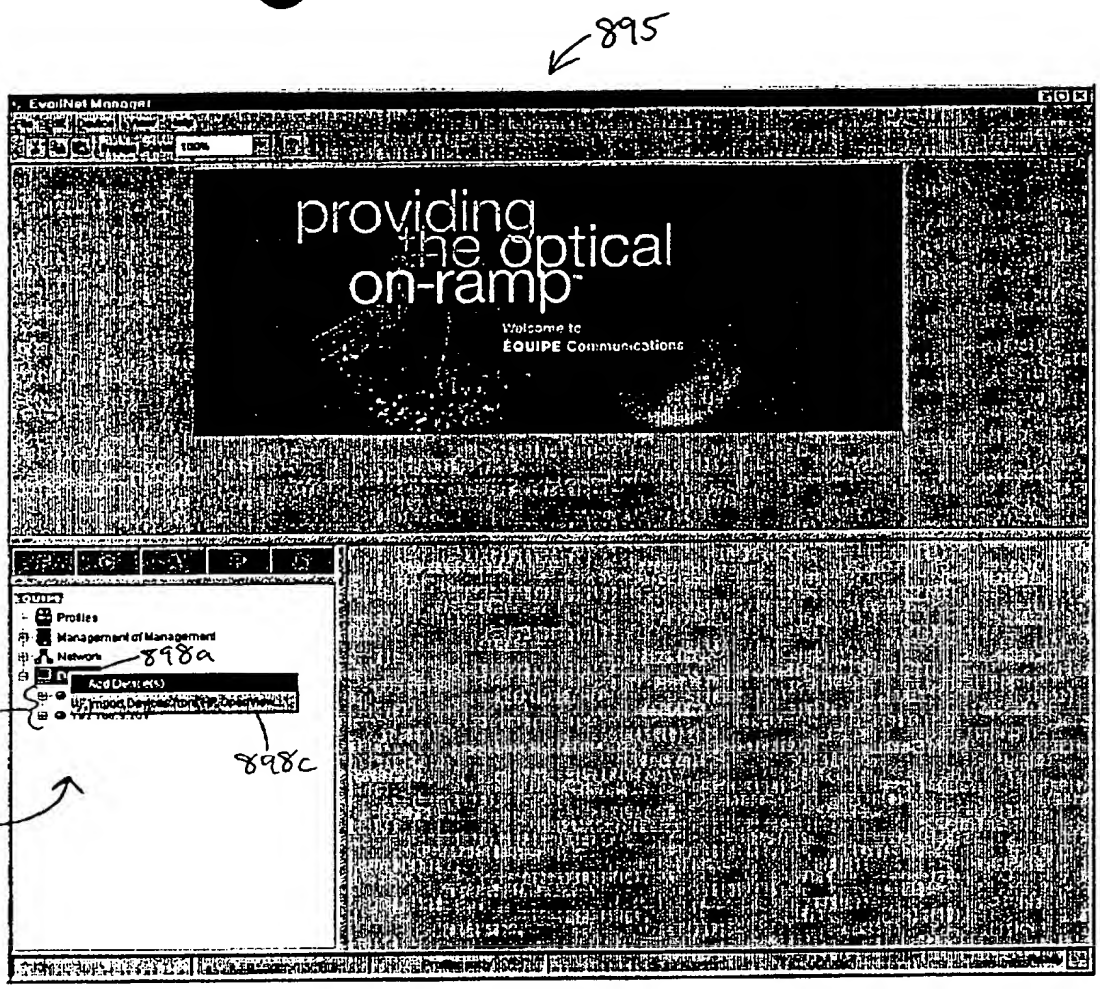

895
providing the optical on-ramp
Welcome to
EQUIPE Communications
Profiles
Management of Management
Network
898a
898b
898c
898

Fig. 4b

Fig. 4c

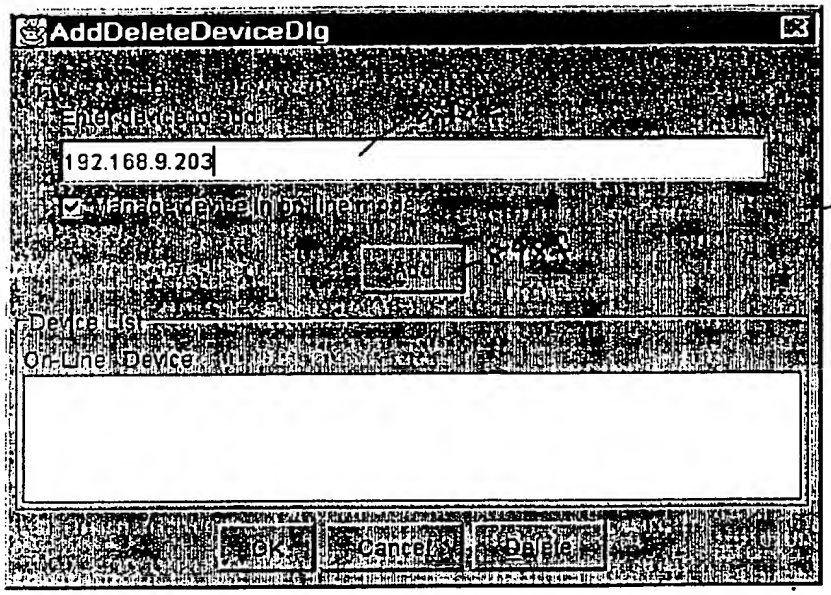
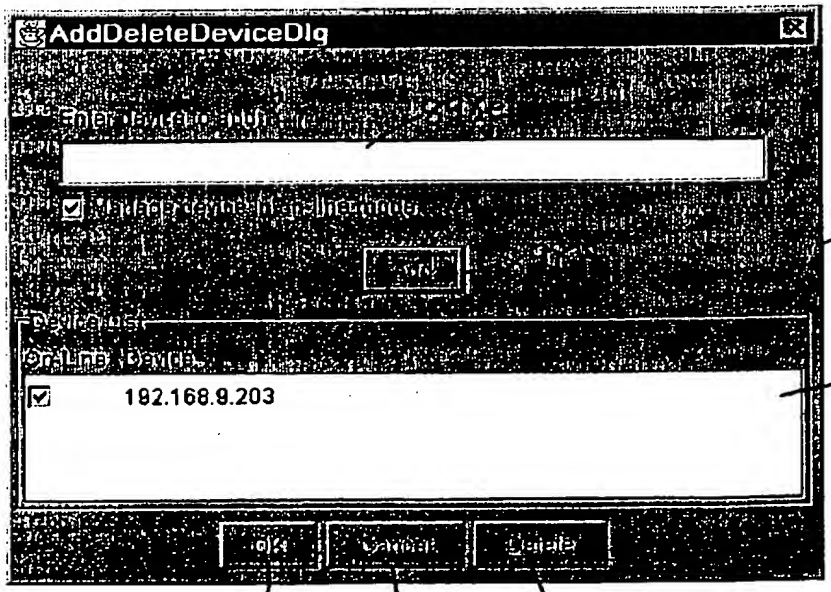

AddDeleteDeviceDlg
192.168.9.203
Add
Device List
On-Line Device
OK
Cancel
Delete
898d

Fig. 4d


AddDeleteDeviceDlg
Add
On-Line Device
192.168.9.203
898d
898g
898j
898i
898h

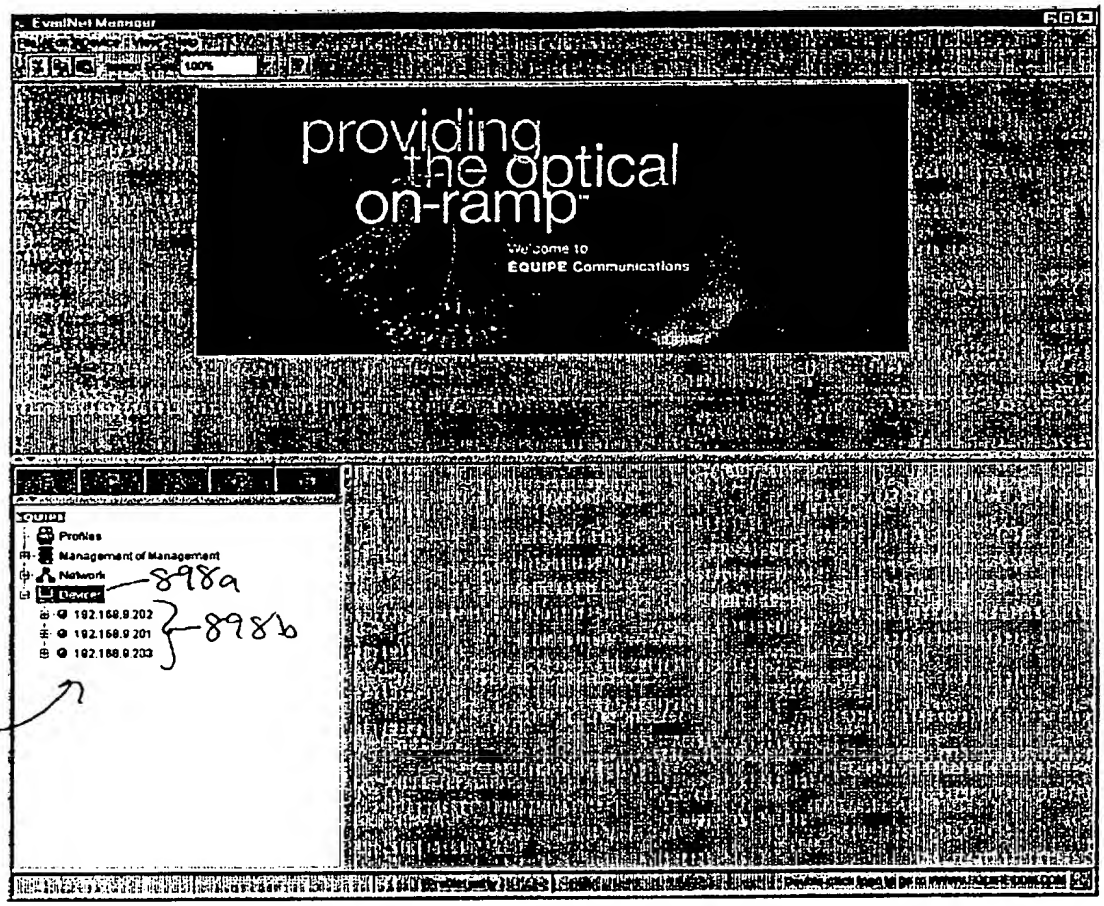

895
EvenNet Manager
providing the optical on-ramp
Welcome to
EQUIPE Communications
Profiles
Management of Management
Network
Device
192.168.9.202
192.168.9.201
192.168.9.203
898a
898b
898

Fig. 4e

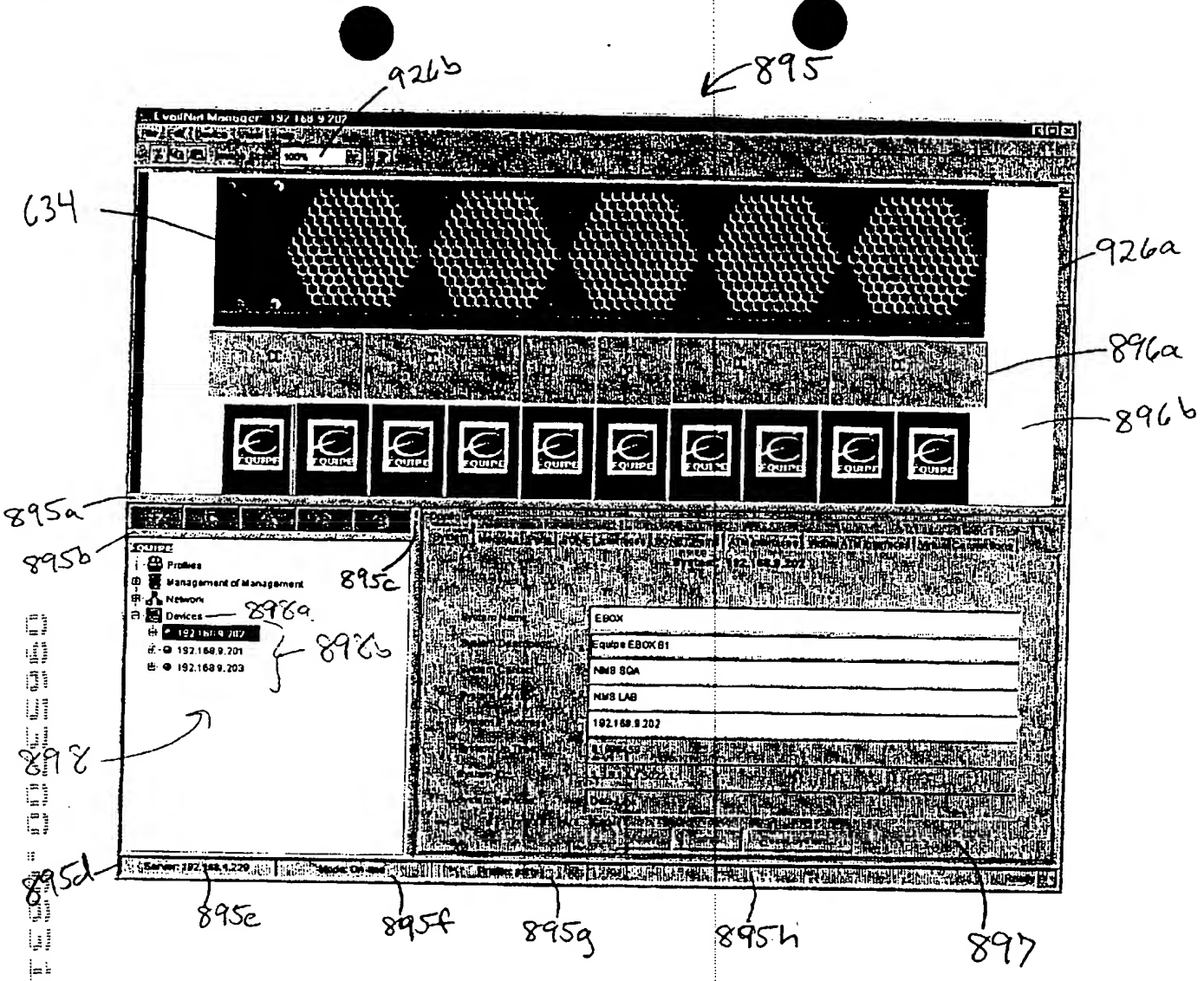

926b
895
634
926a
896a
896b
895a
895b
895c
898a
898b
898
895d
895e
895f
895g
895h
897
Profiles
Management of Management
Network
Devices
192.168.9.201
192.168.9.203
EBOX
Equipe EBOX B1
NMS SQA
NMS LAB
192.168.9.202

Fig. 4f

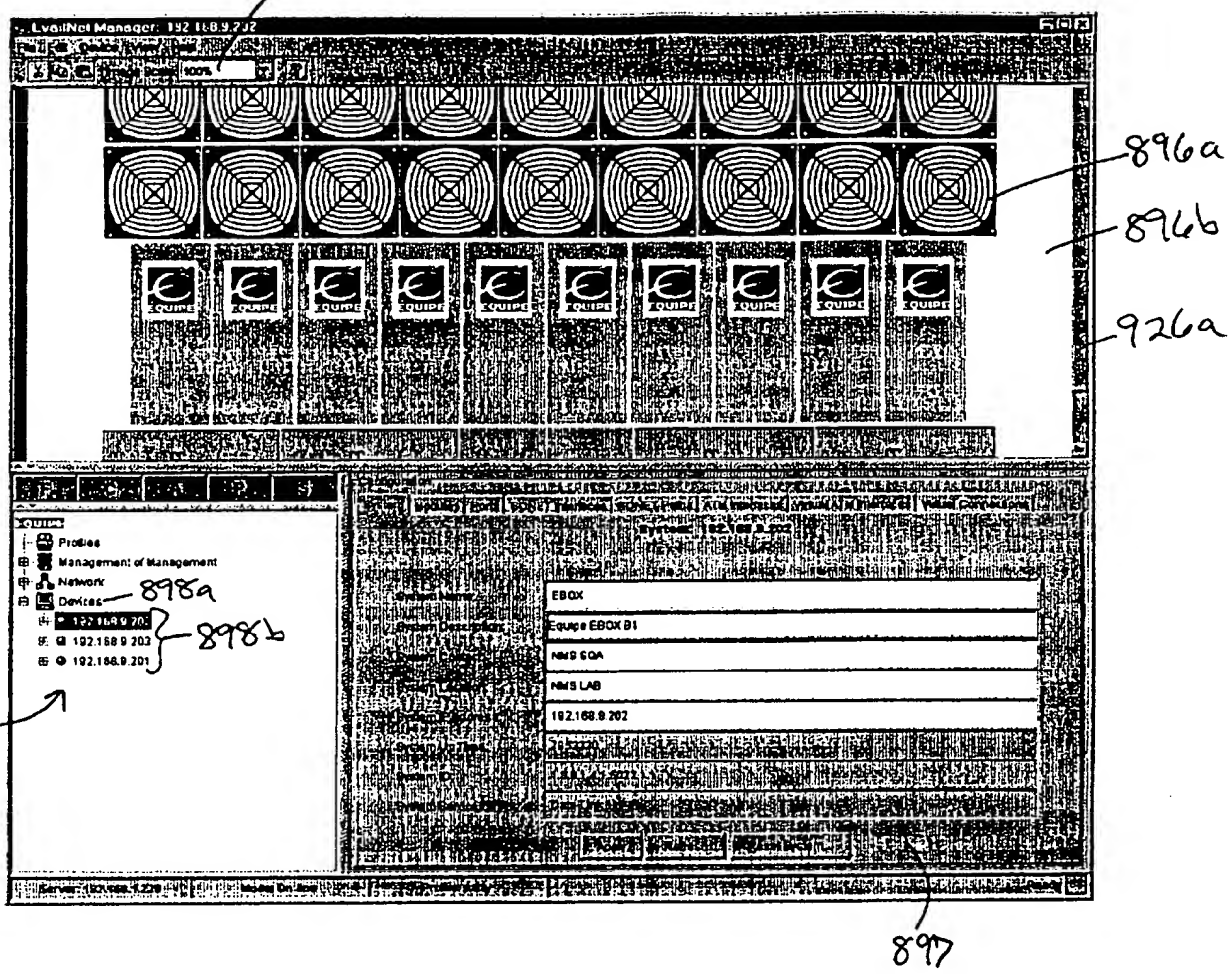

926b
895
896a
896b
926a
898a
898b
898
897
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201
EBOX
Equipe EBOX B1
NMS SQA
NMS LAB
192.168.9.202

Fig. 4g

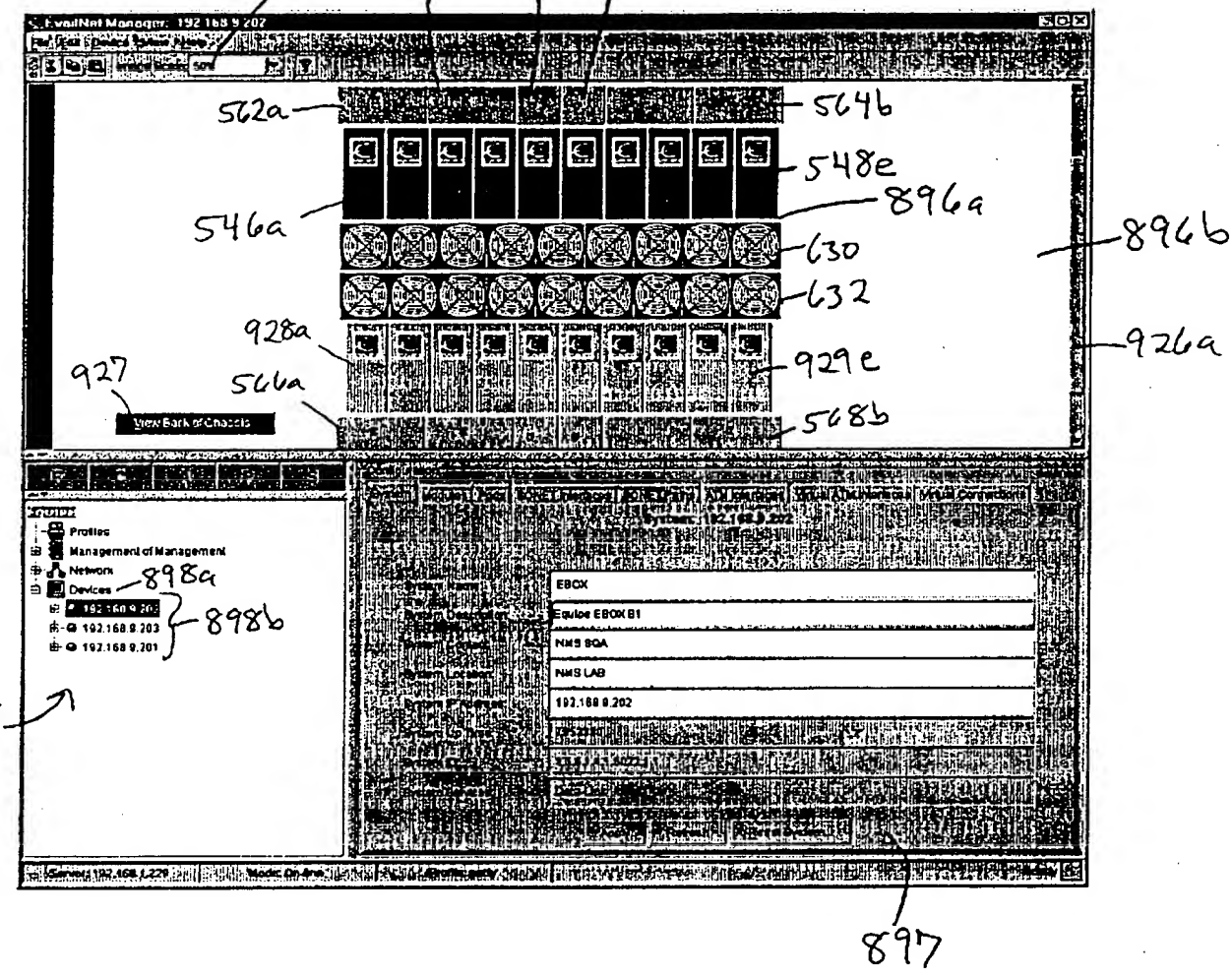

895
926b
562b
542b
543b
562a
564b
548e
546a
896a
896b
630
632
928a
929e
926a
927
View Rack or Chassis
566a
568b
Profiles
Management of Management
Network
Devices
898a
898b
192.168.9.203
192.168.9.201
898
EBDX
Equipe EBDX B1
NMS SQA
NMS LAB
192.168.9.202
897

Fig. 4h

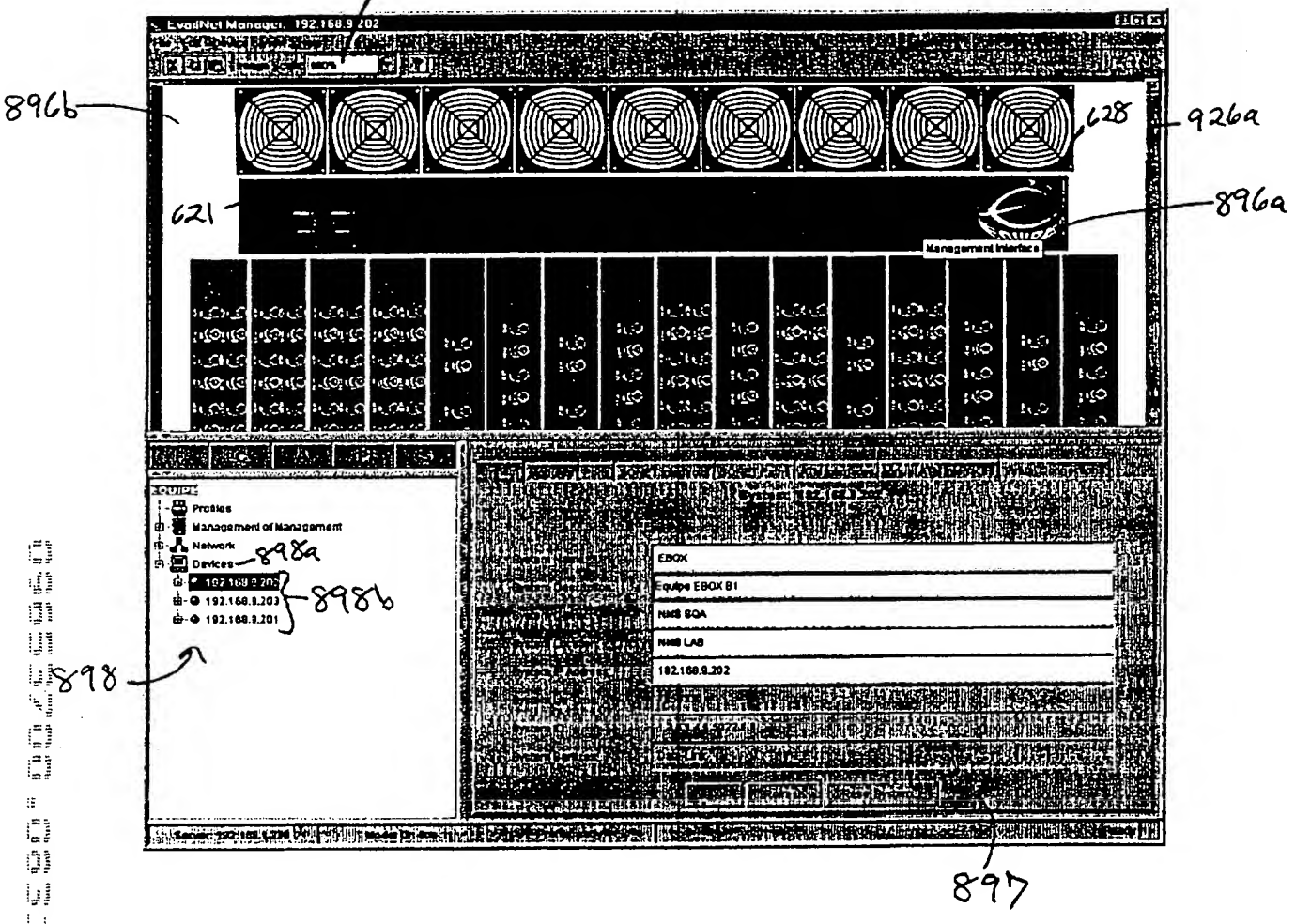

926b
895
896b
628
926a
621
896a
Management Interface
EQUIPE
Profiles
Management of Management
Network
Devices
898a
192.168.9.205
192.168.9.203
192.168.9.201
898b
898
EBOX
Equipe EBOX B1
NMS SOA
NMS LAB
192.168.9.202
897

Fig. 4i

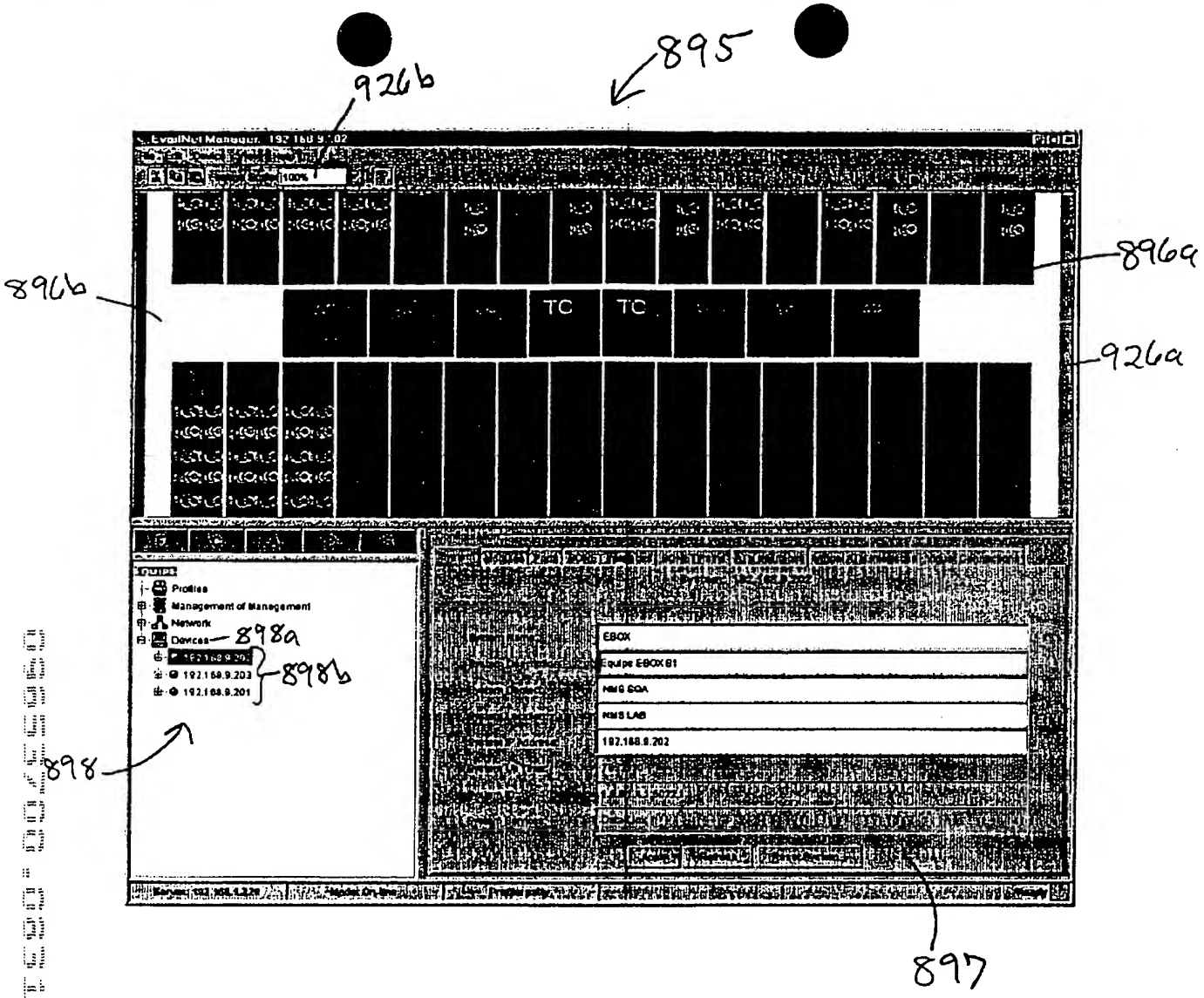

926b
895
896a
896b
926a
TC
TC
Profiles
Management of Management
Network
Devices
898a
898b
192.168.9.203
192.168.9.201
898
EBOX
Equipe EBOX 81
NMS SQA
NMS LAB
192.168.8.202
897

Fig. 4j

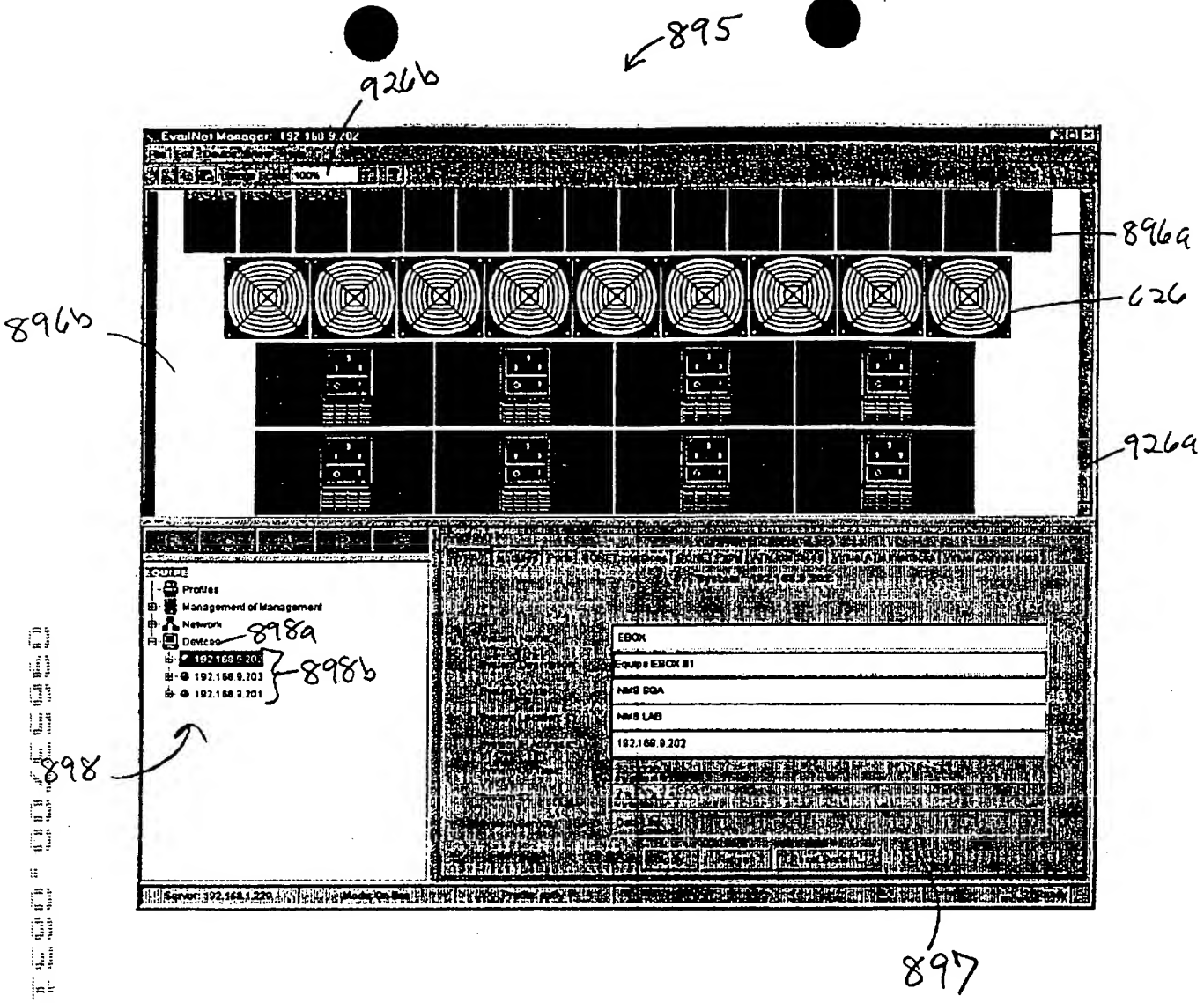

895
9266
896a
626
896b
9269
898a
898b
898
897
Profiles
Management of Management
Network
Devices
192.168.9.202
192.168.9.203
192.168.9.201
EBOX
Equipe EBOX 81
NMS SQA
NMS LAB
192.168.9.202

Fig. 4K

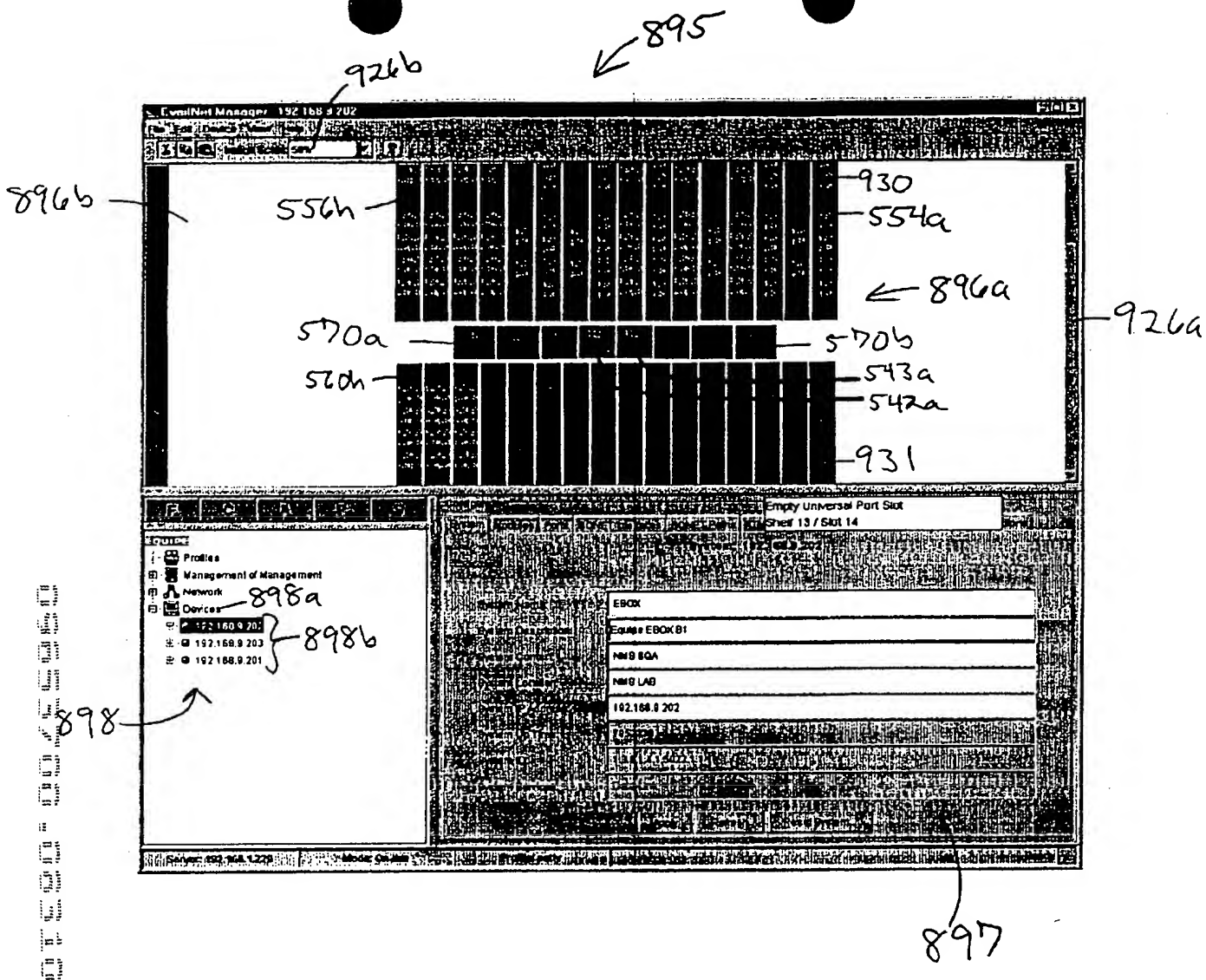

895
926b
896b
556h
930
554a
896a
926a
570a
570b
542h
543a
542a
931
Empty Universal Port Slot
Shelf 13 / Slot 14
Profiles
Management of Management
Network
Devices
898a
898b
898
EBOX
Equipe EBOX B1
NMS BQA
NMS LAB
192.168.9.202
192.168.9.203
192.168.9.201
897

Fig. 4L

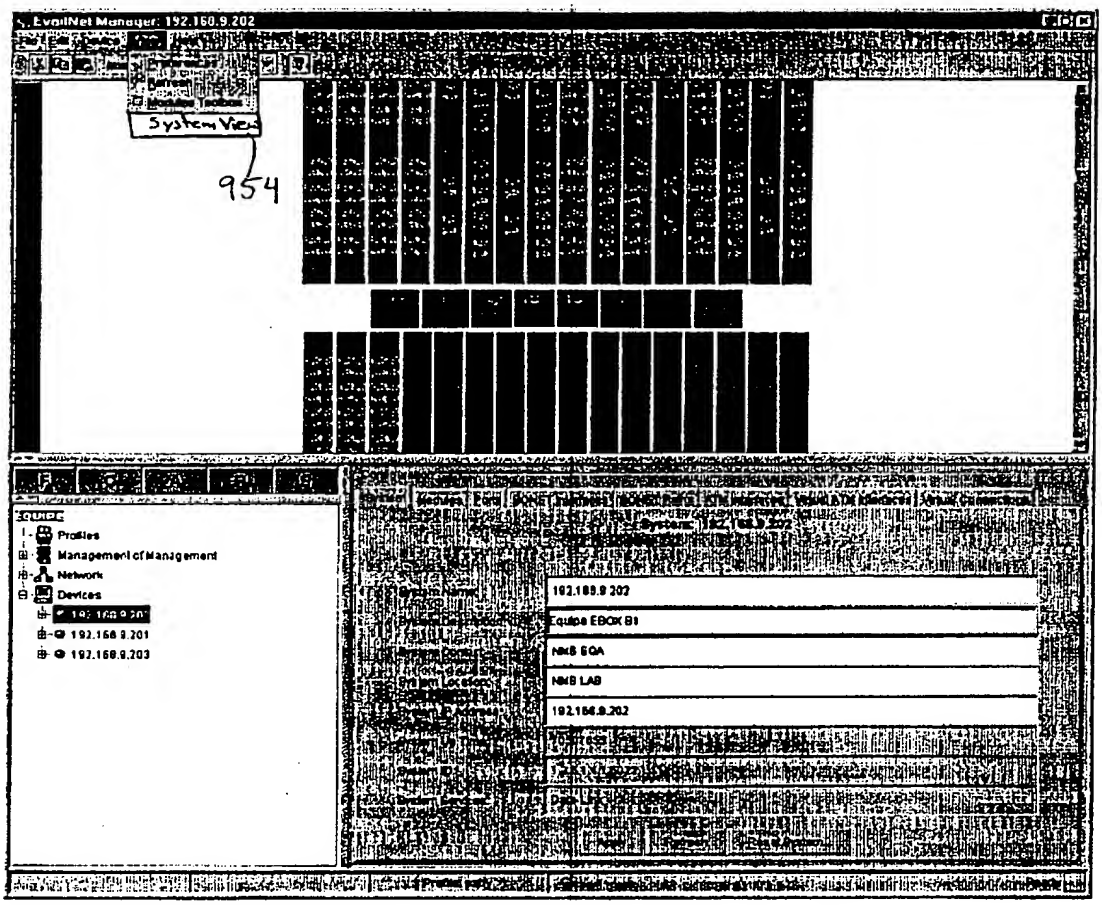

EventNet Manager: 192.150.9.202
System View
954
Profiles
Management of Management
Network
Devices
192.168.9.201
192.168.9.203
192.168.9.202
Equipe EBOX B1
NMS SQA
NMS LAB
192.168.9.202

Fig. 4m

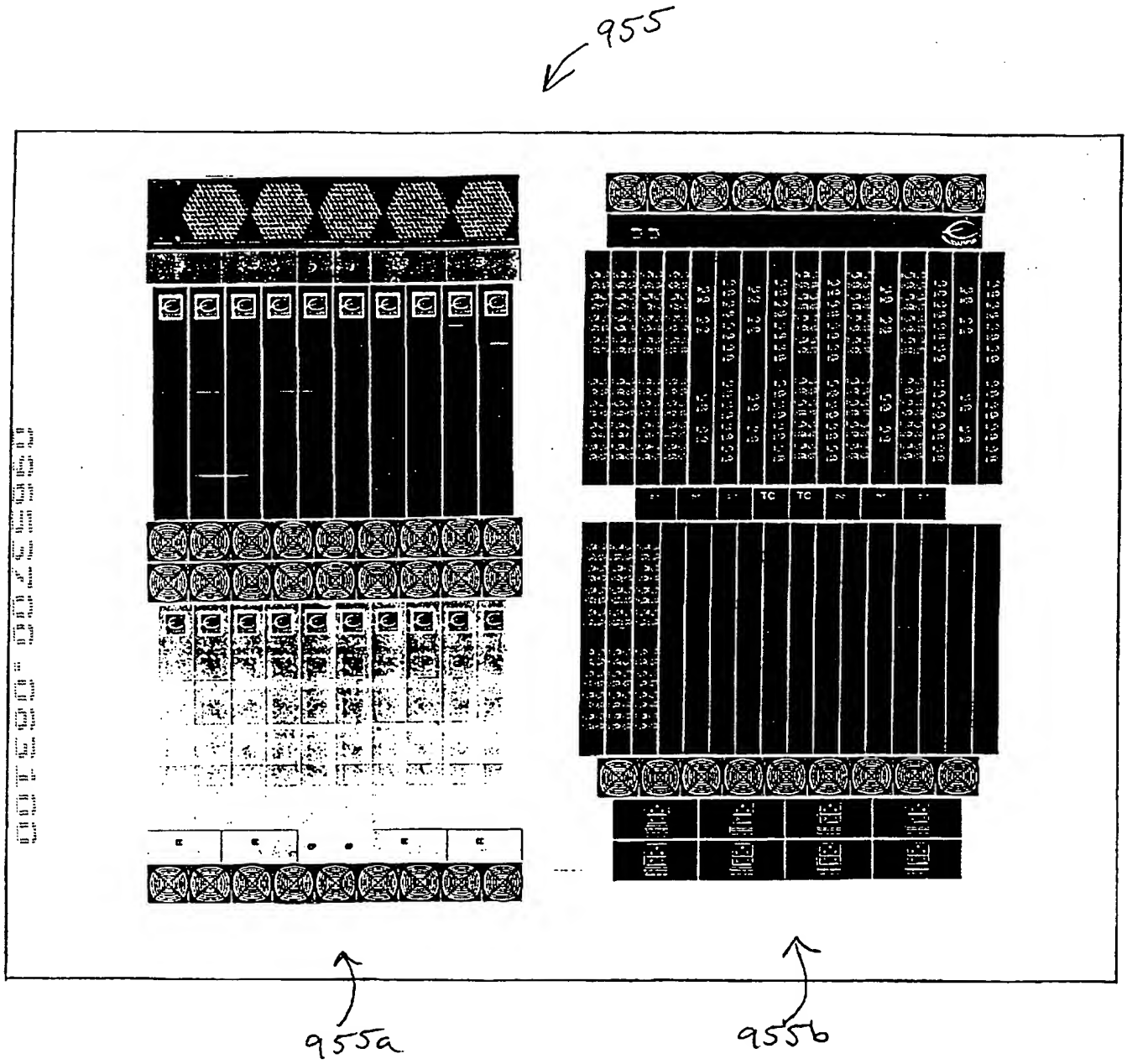


Fig. 4n

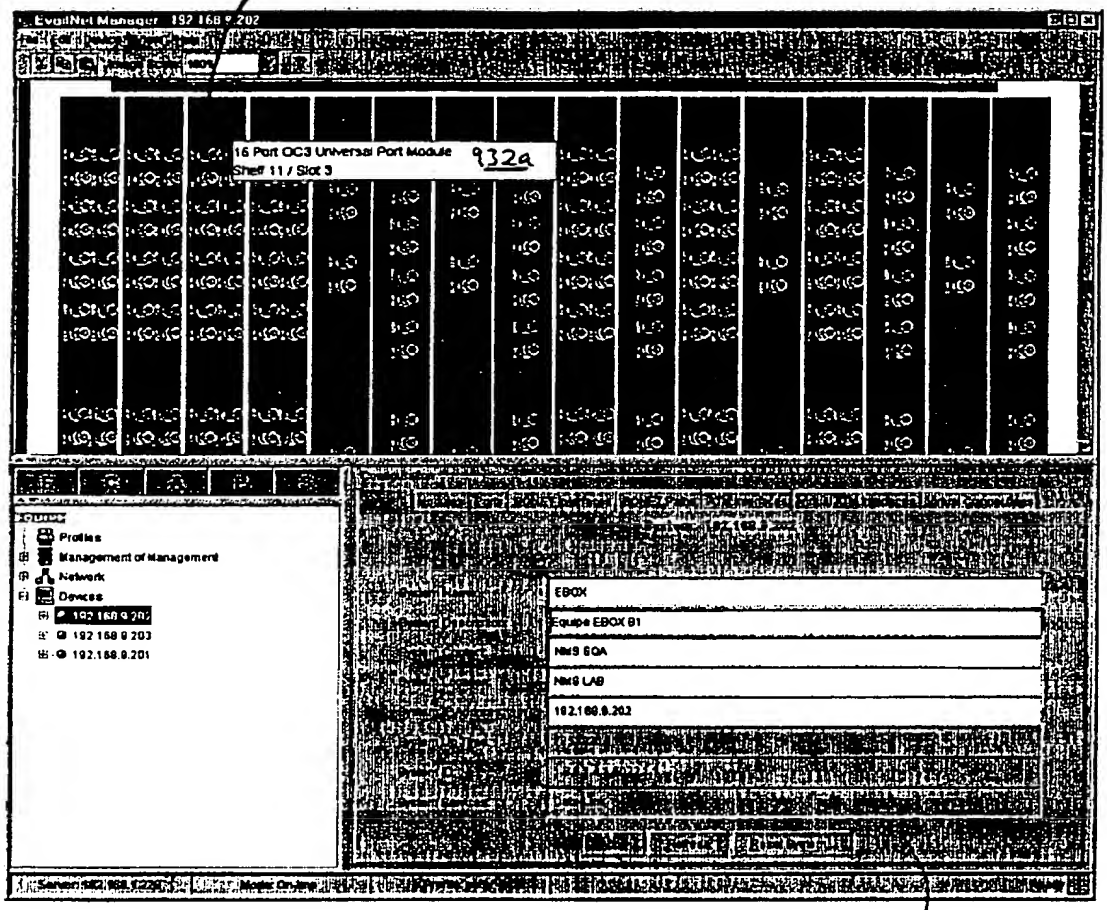

895
554
16 Port OC3 Universal Port Module
Shelf 11 / Slot 3
932a
Profiles
Management of Management
Network
Devices
192.168.9.202
192.168.9.203
192.168.9.201
EBOX
Equipe EBOX 91
NMS SQA
NMS LAB
192.168.9.202
897

Fig. 4o

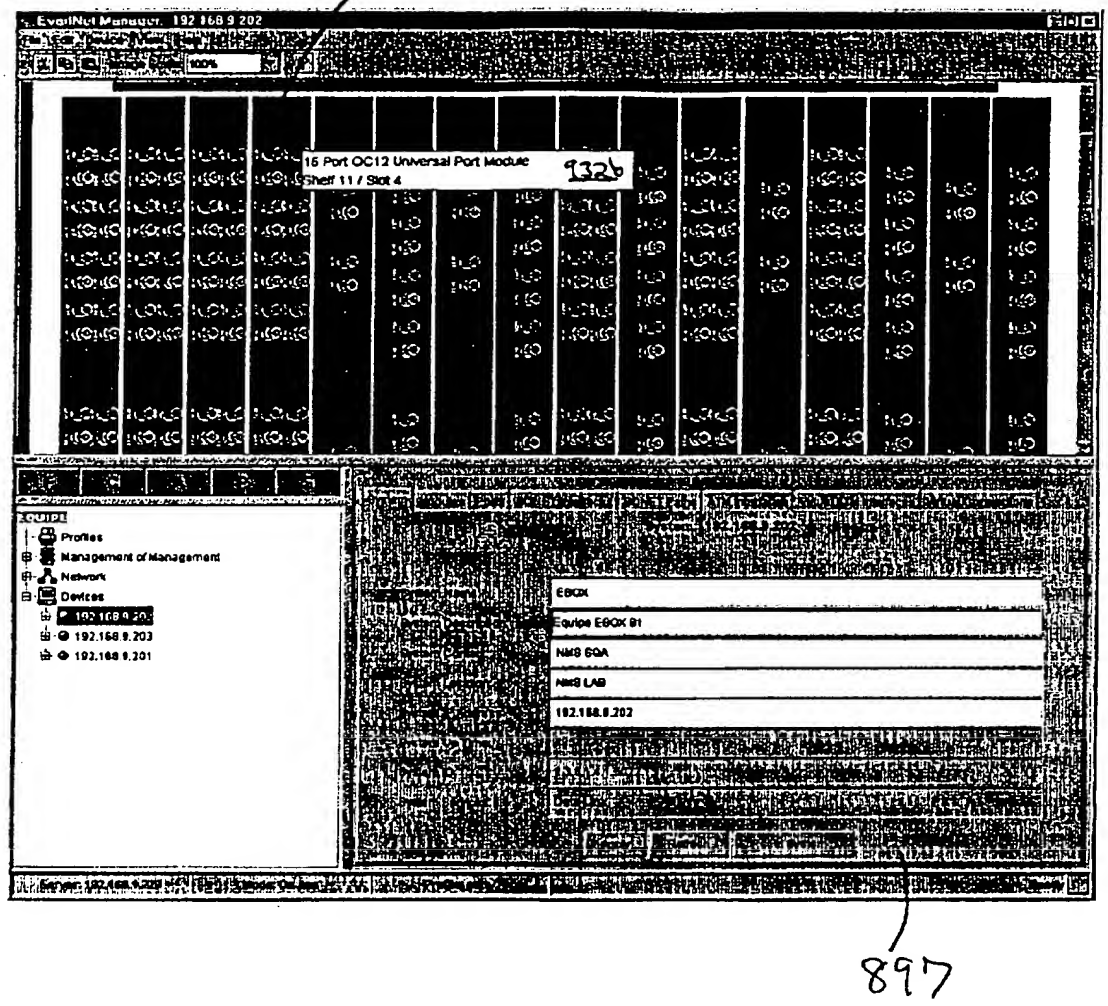

556e
895
16 Port OC12 Universal Port Module
Shelf 11 / Slot 4
932b
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201
EGOX
Equipe EGOX 81
NMS SQA
NMS LAB
192.168.8.202
897

Fig. 4P

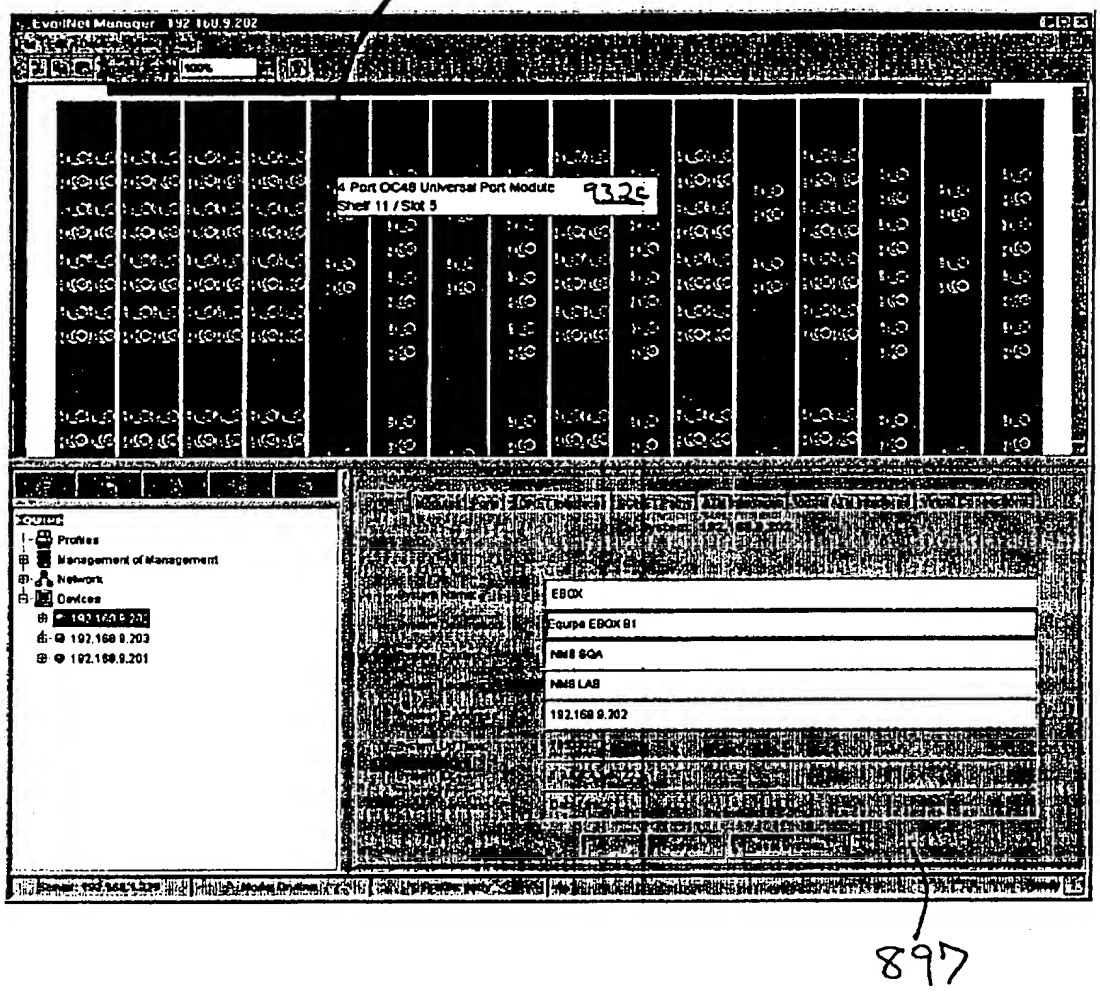

556d
895
4 Port OC48 Universal Port Module
Shelf 11 / Slot 5
932c
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201
EBOX
Equipe EBOX 91
NMS SQA
NMS LAB
192.168.9.202
897

Fig. 4g

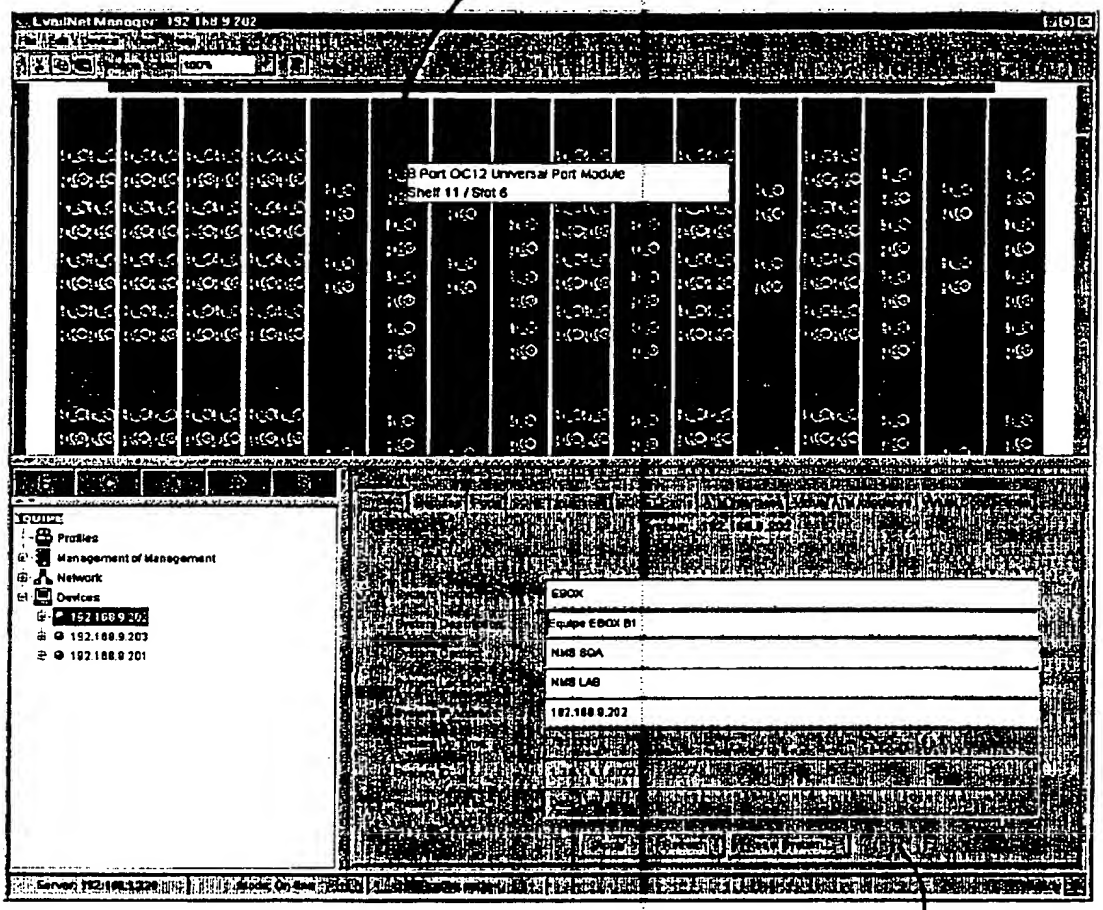

556c
8 Port OC12 Universal Port Module
Shelf 11 / Slot 6
Profiles
Management of Management
Network
Devices
192.168.9.202
192.168.9.203
192.168.9.201
E8OX
Equipe E8OX B1
NMS SOA
NMS LAB
192.168.9.202
897

Fig. 4F

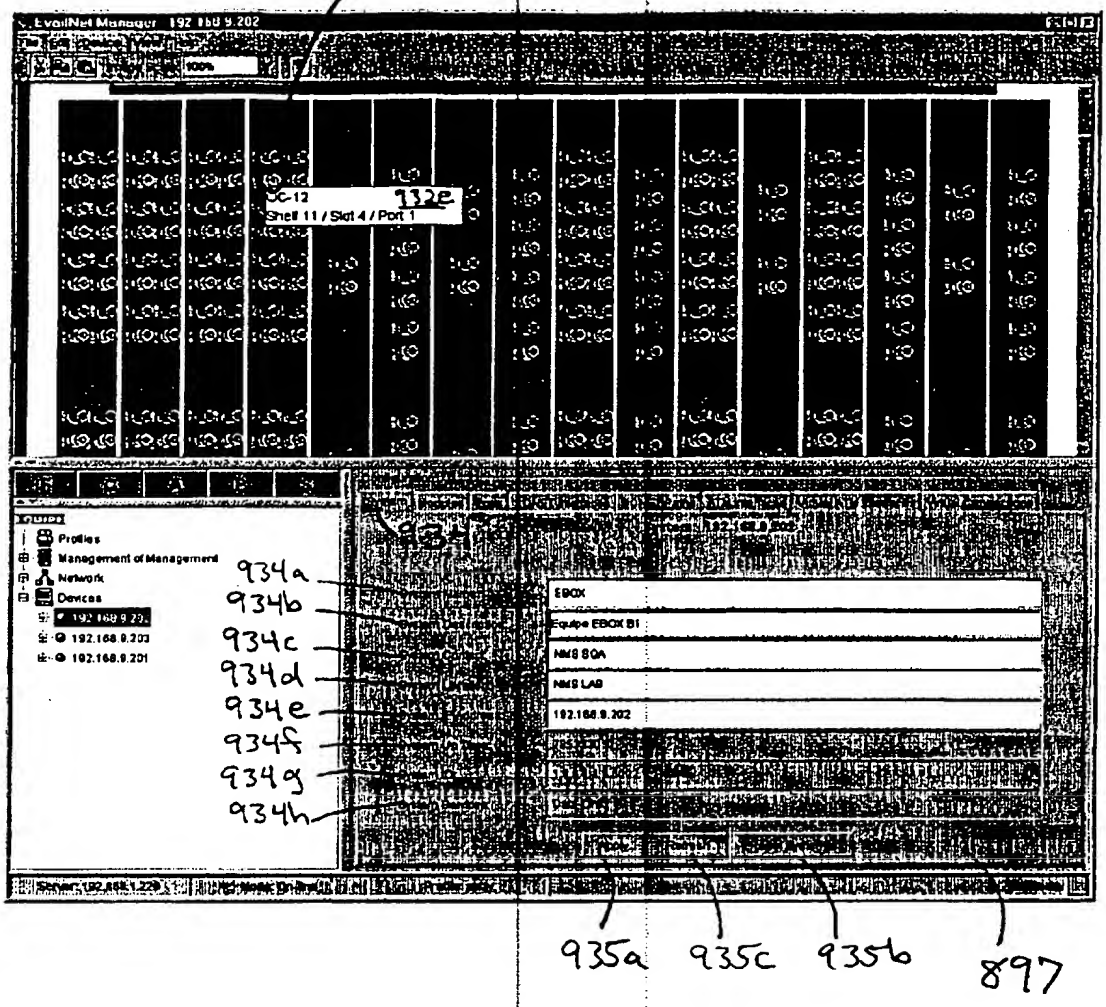

933
895
932e
934
934a
934b
934c
934d
934e
934f
934g
934h
935a
935c
935b
897

Fig. 4s

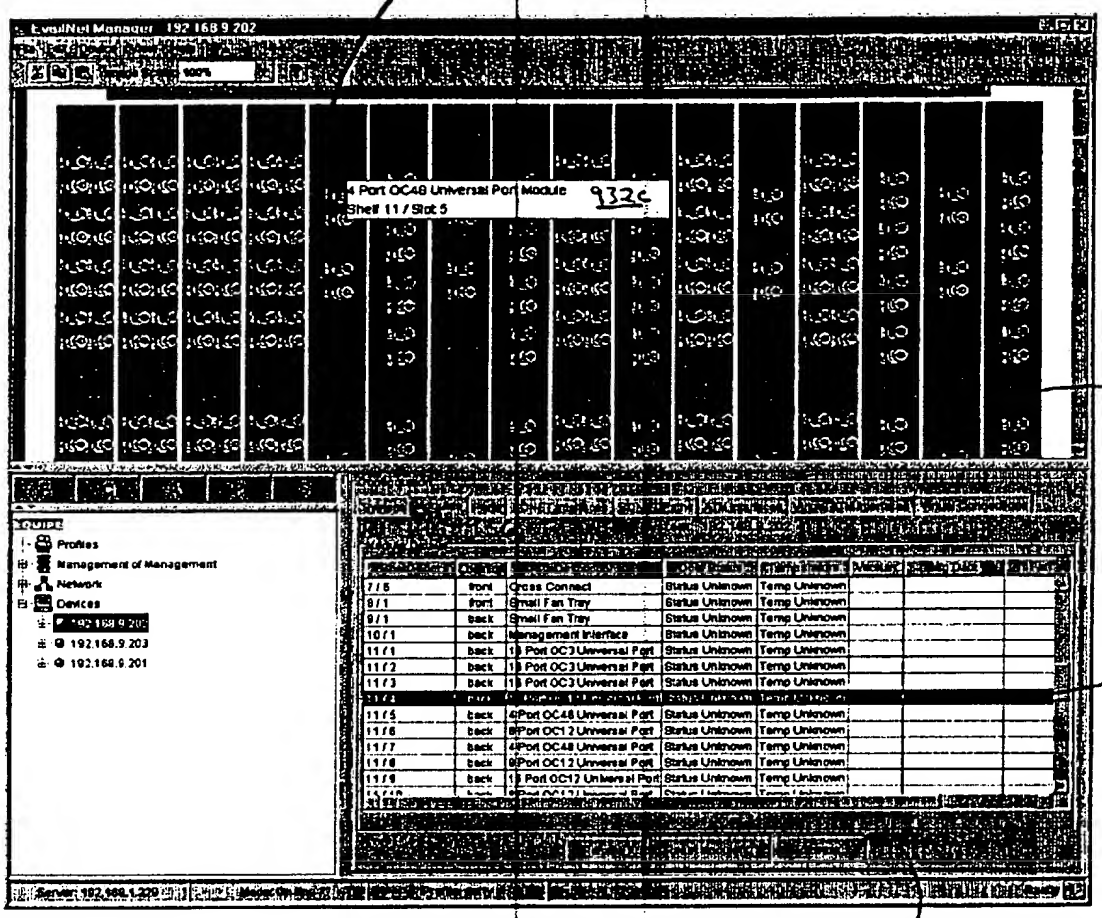

815
556d
4 Port OC48 Universal Port Module
Shelf 11 / Slot 5
932c
896a
937
897
EQUIPE
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201

Fig. 47

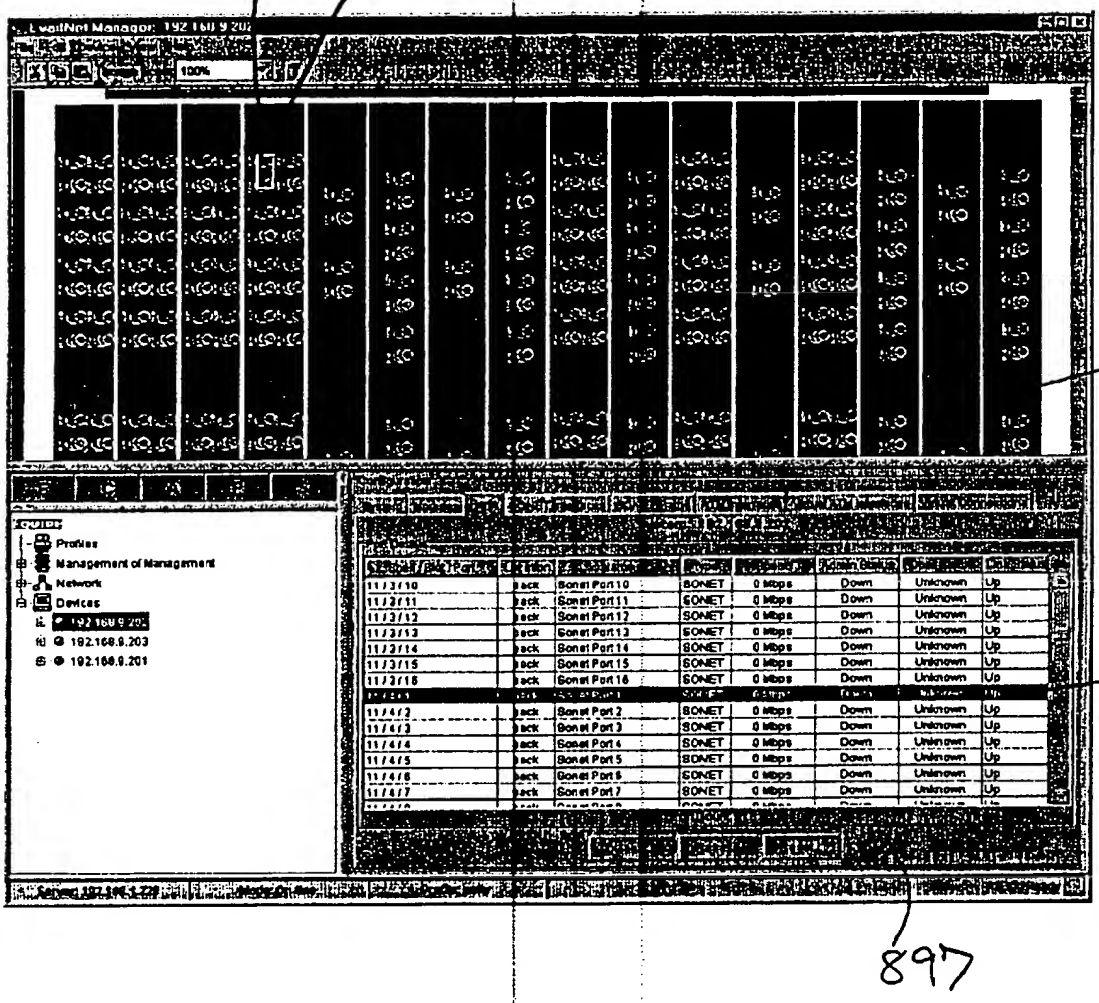

939a
556e
895
896a
939b
897
Profiles
Management of Management
Network
Devices

Fig. 4u

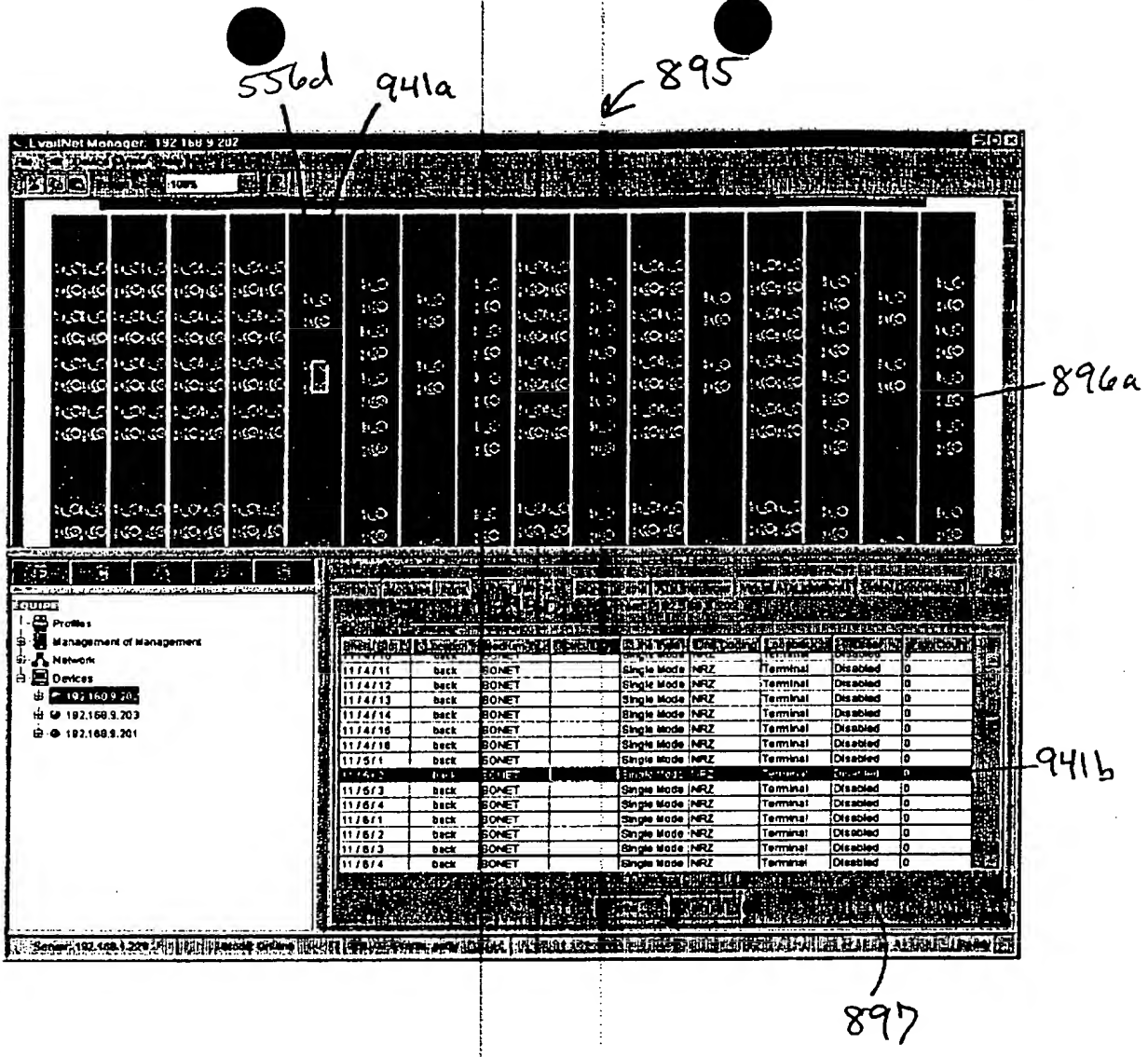

556d
941a
895
896a
941b
897
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201

Fig. 4v

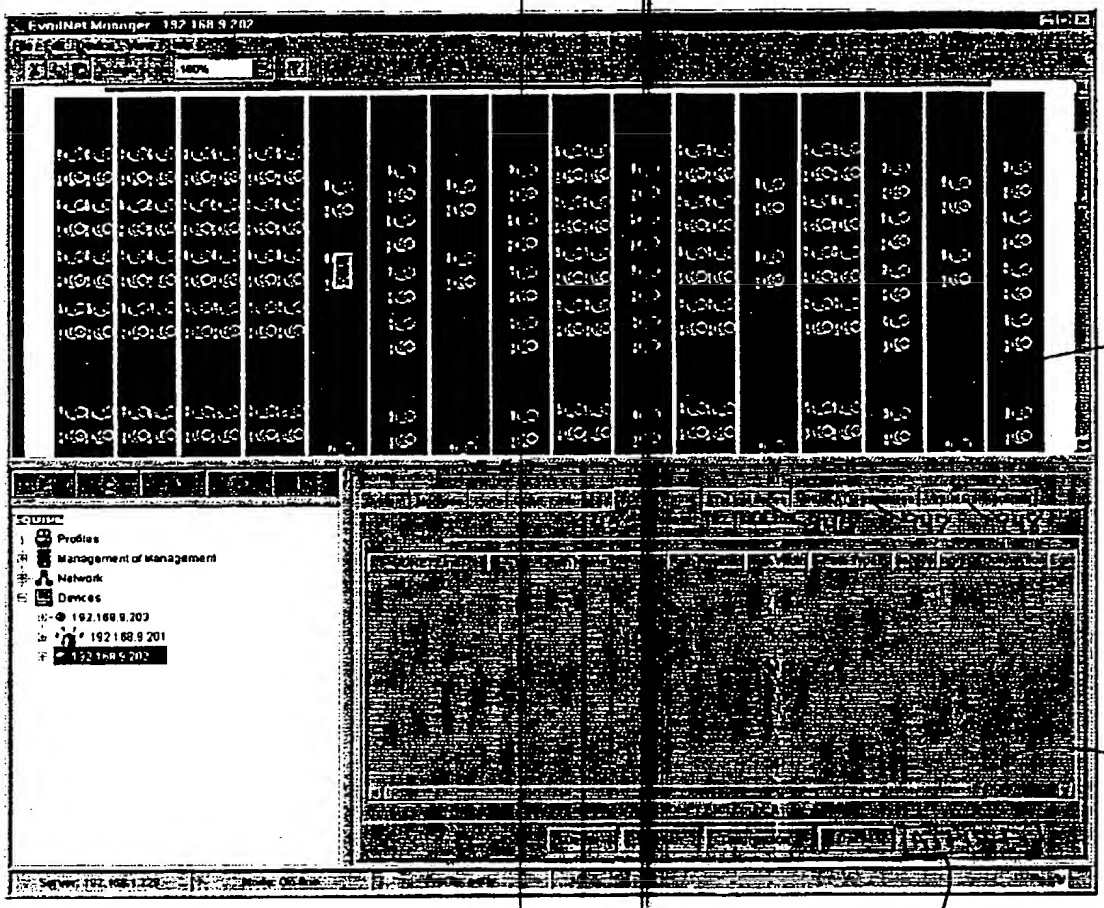

895
896a
897
942c
Profiles
Management of Management
Network
Devices

Fig. 4w

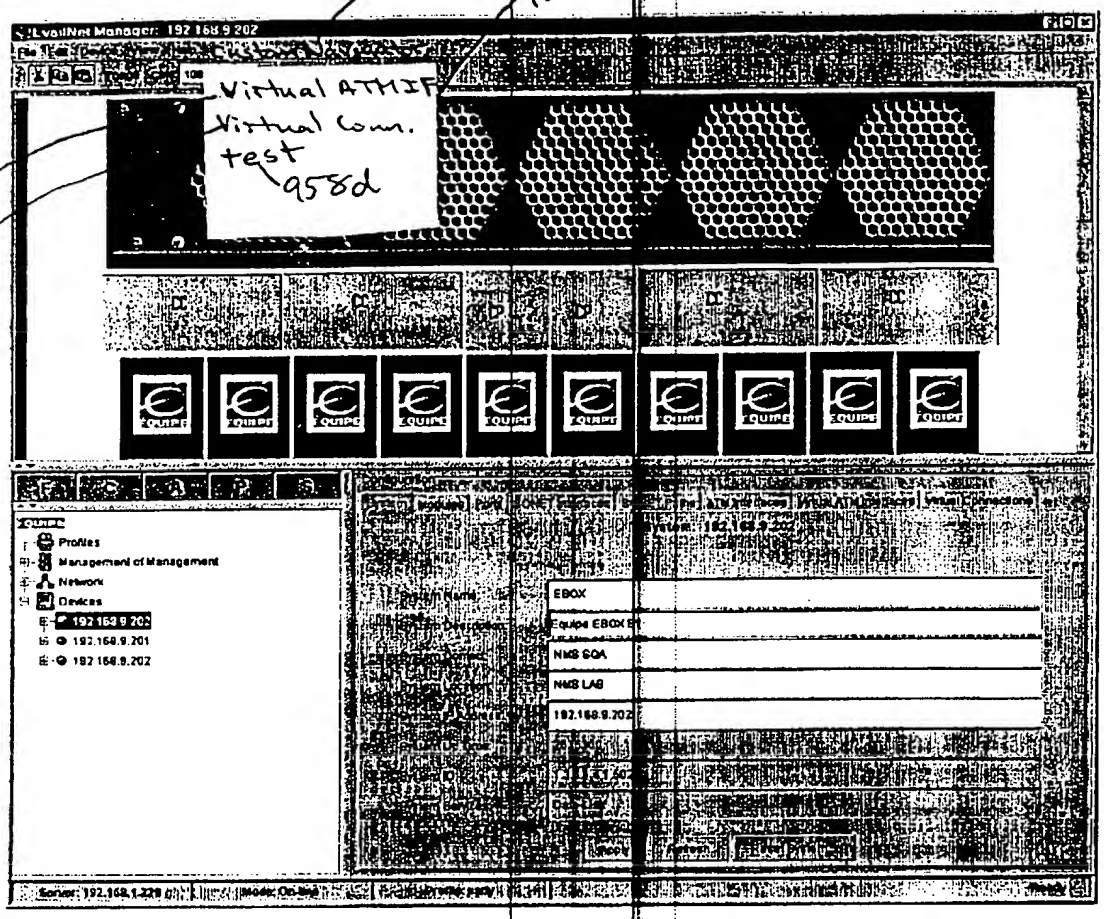

958
958a
895
Virtual ATHIF
Virtual Conn.
test
958d
958b
958c
LocalNet Manager: 192.168.9.202
Profiles
Management of Management
Network
Devices
192.168.9.201
192.168.9.202
EBOX
Equipe EBOX 81
NMS SQA
NMS LAB
192.168.9.202

Fig. 4X

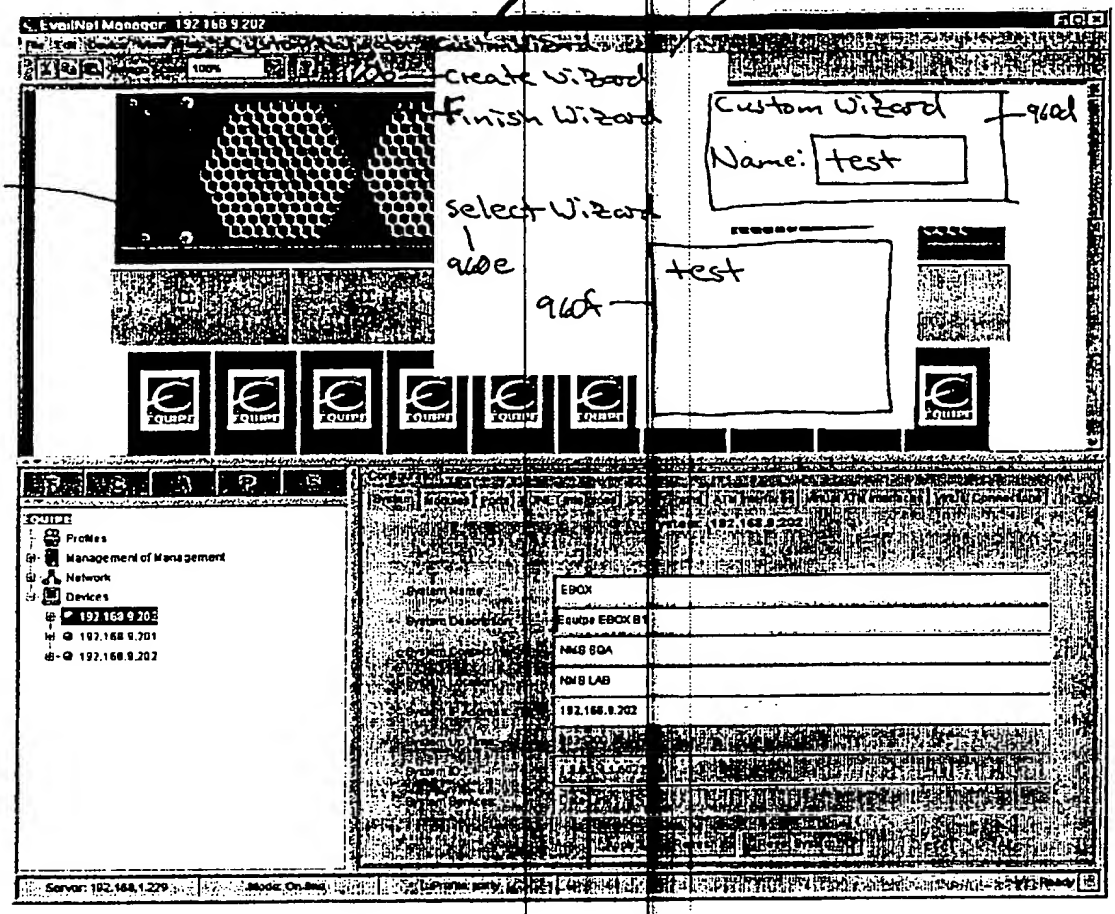

895
960
960a
896a
Create Wizard
Finish Wizard
Custom Wizard
960d
Name: test
Select Wizard
960e
960f
test
Profiles
Management of Management
Network
Devices
192.168.9.203
192.168.9.201
192.168.9.202
EBOX
Equipe EBOX B1
NMS SQA
NMS LAB
192.168.9.202

Fig. 4Y

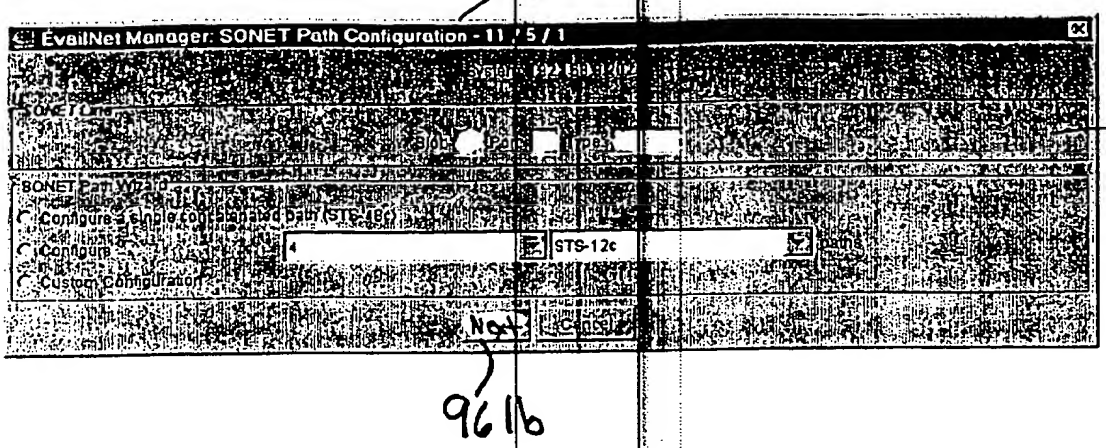

961
EvailNet Manager: SONET Path Configuration - 11 / 5 / 1
961a
SONET Path Wizard
Configure a single contiguous path (STS-1Nc)
Configure
Custom Configuration
4
STS-12c
Next
Cancel
961b

Fig. 42

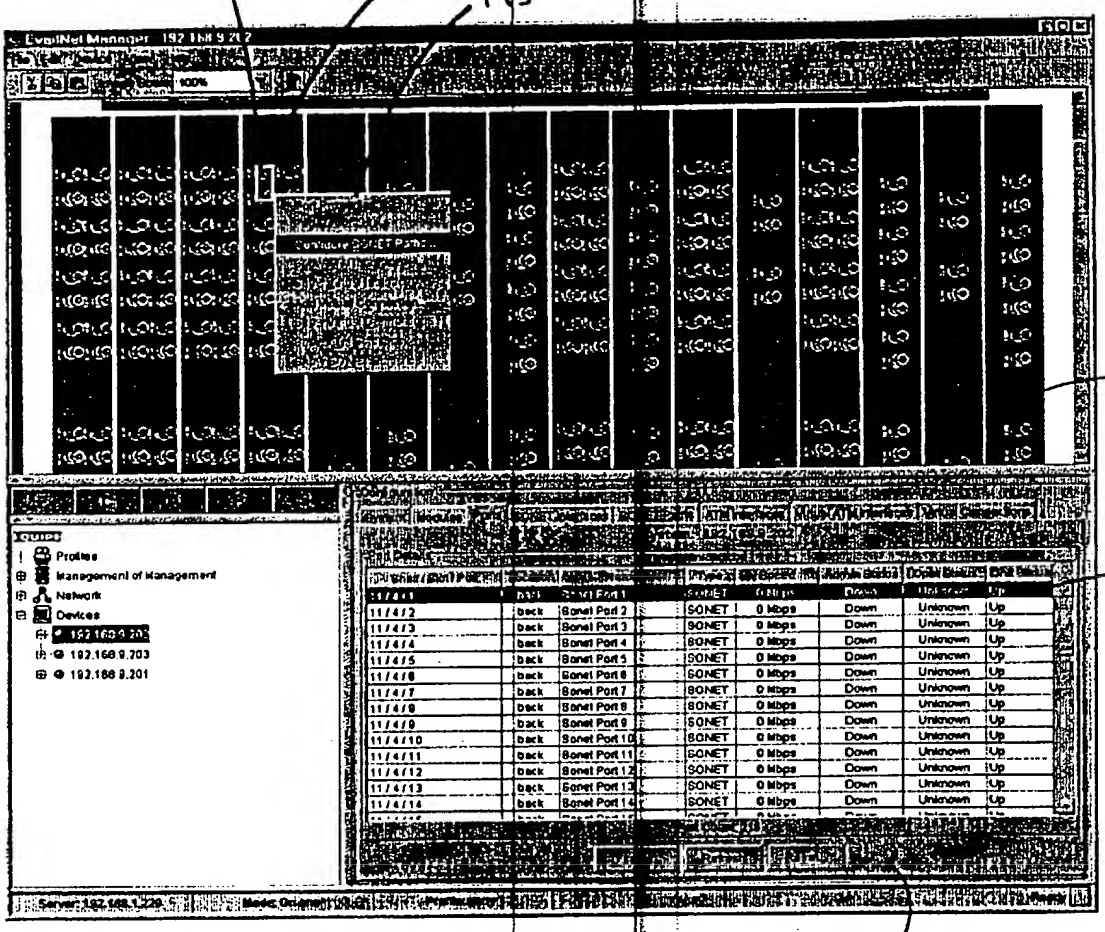

939a
556e
943
895
896a
9396
897
Profiles
Management of Management
Network
Devices

Fig. 5a

Fig. 5b

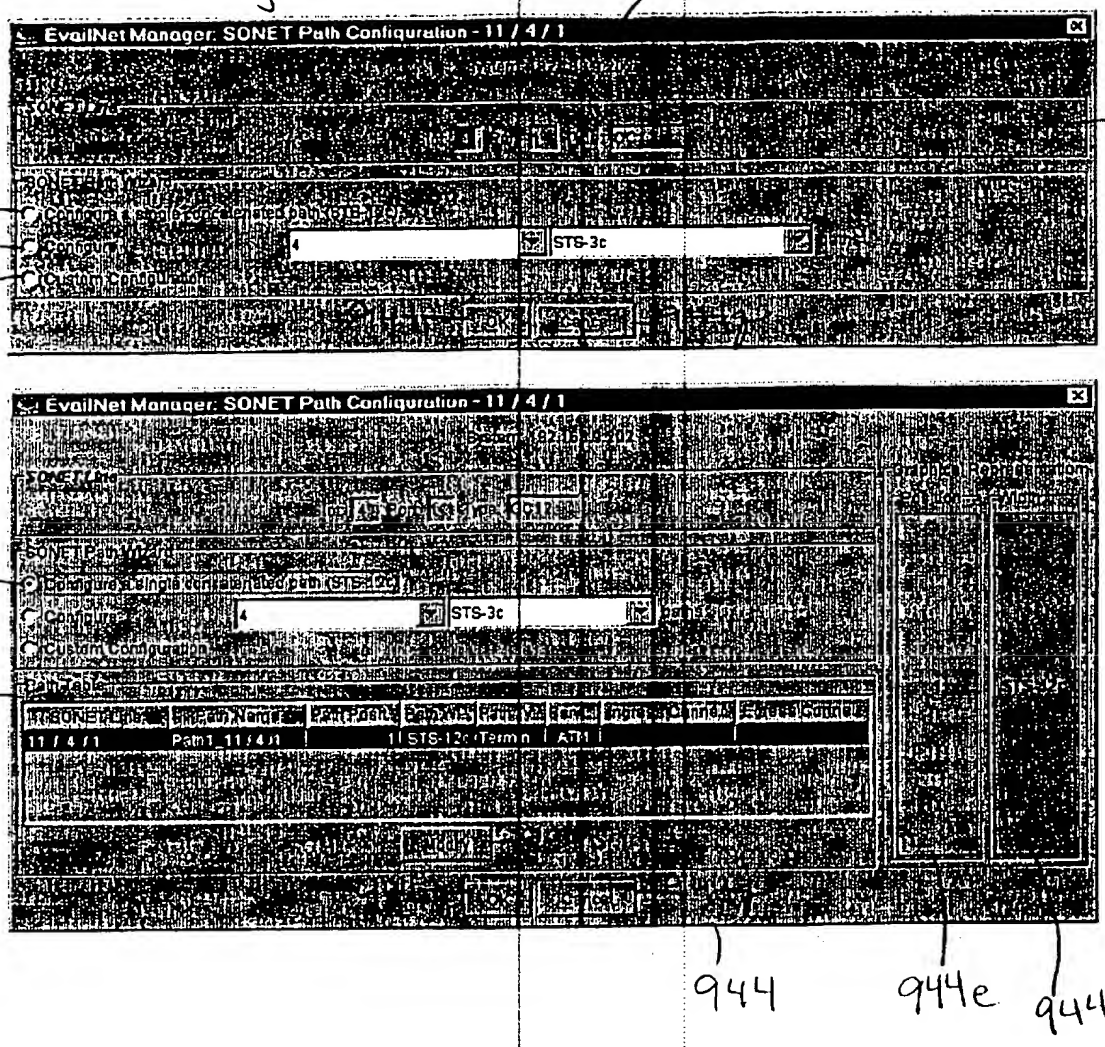
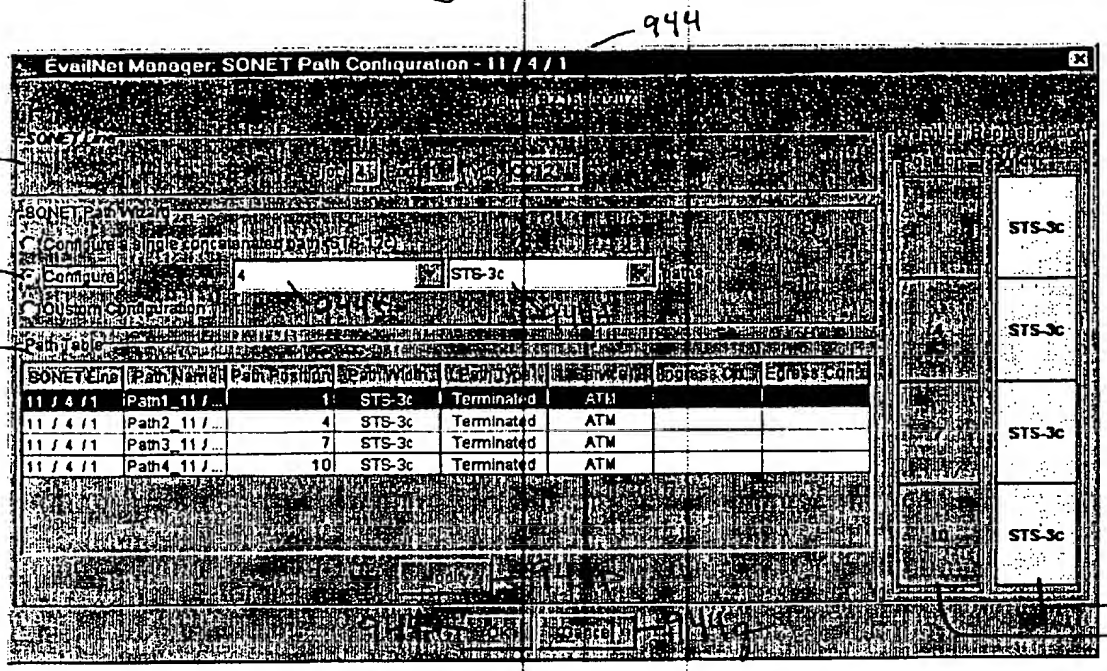

944
EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
944a
944b
944c
944d
STS-3c
EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
944b
944g
STS-3c
11 / 4 / 1
944
944e
944f

Fig. 5c

Fig. 5d


944
EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
944a
944c
944g
SONET Path Wizard
Configure
4
STS-3c
Path Table
SONET Line
Path Name
Path Position
AP Path Width
Connection Type
User Width
Ingress Conn
Egress Conn
11 / 4 / 1
Path1_11 / ...
1
STS-3c
Terminated
ATM
Path2_11 / ...
4
STS-3c
Terminated
ATM
Path3_11 / ...
7
STS-3c
Terminated
ATM
Path4_11 / ...
10
STS-3c
Terminated
ATM
STS-3c
STS-3c
STS-3c
STS-3c
944f
944e

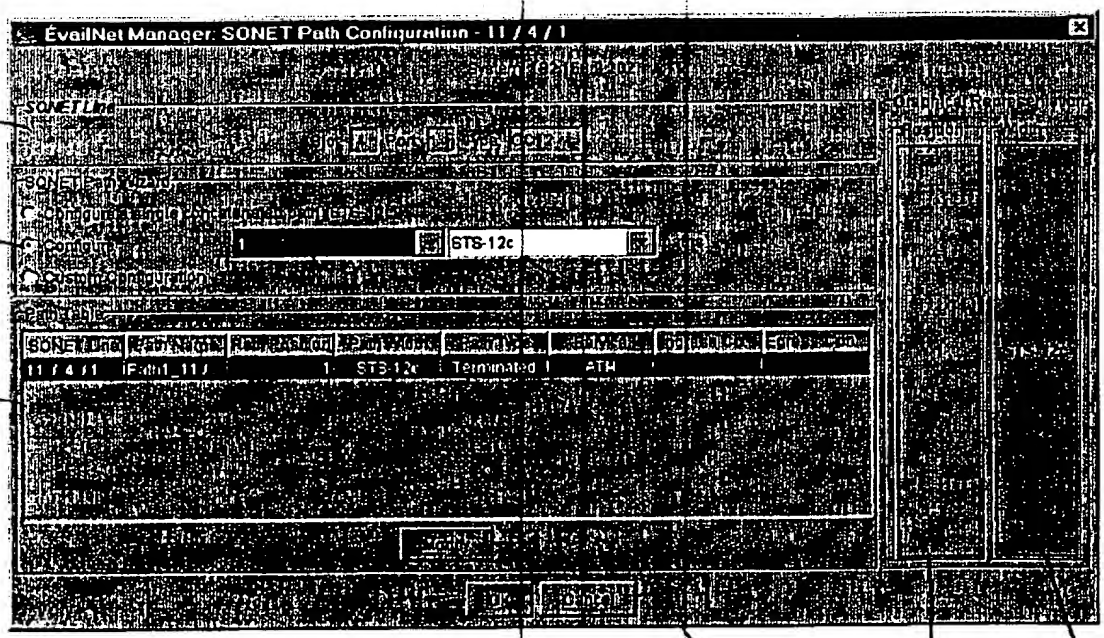
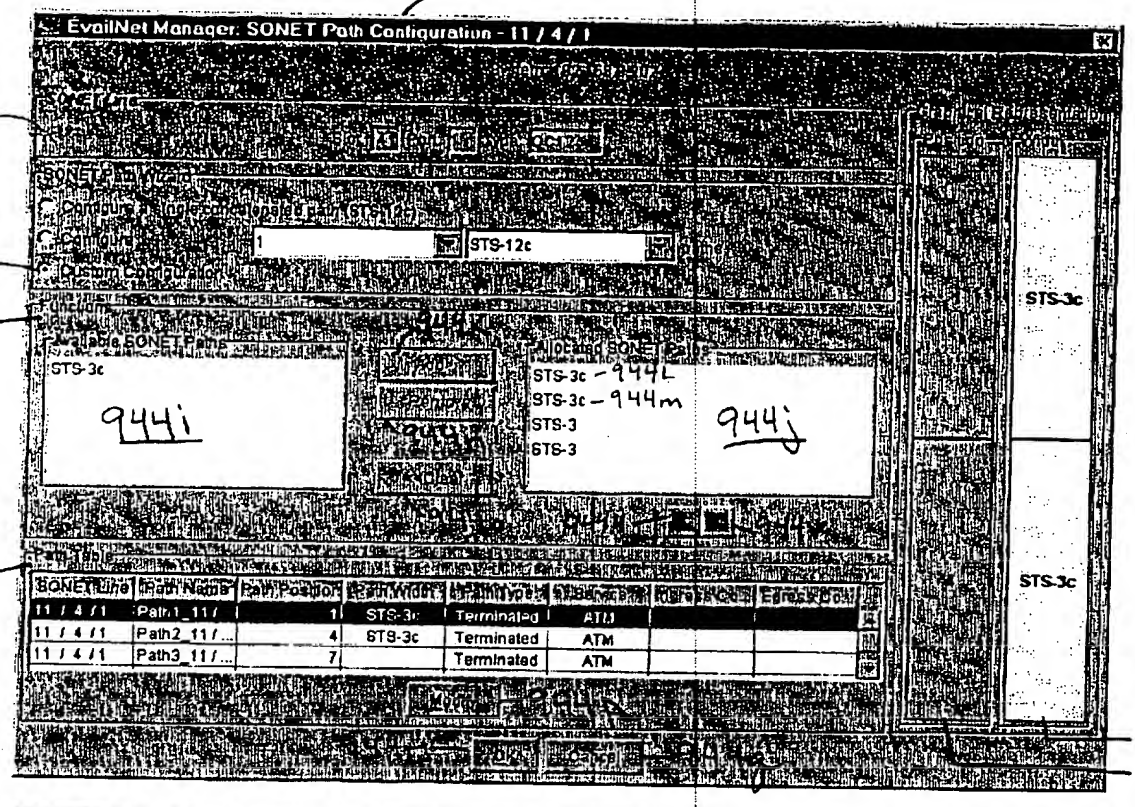

EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
944a
944c
944g
SONET Line
Configure
1
STS-12c
11 / 4 / 1
Path1_11 /
1
STS-12c
Terminated
ATM
944
944e
944f

Fig. 5e

Fig. 5f


944
EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
944a
944d
944h
STS-12c
STS-3c
STS-3c
944i
STS-3c – 944L
STS-3c – 944m
STS-3
STS-3
944j
944g
SONET Line
Path Name
Path Position
Path Width
Path Type
Status
Ingress Con
Egress Con
11 / 4 / 1
Path1_11 /...
1
STS-3c
Terminated
ATM
11 / 4 / 1
Path2_11 /...
4
STS-3c
Terminated
ATM
11 / 4 / 1
Path3_11 /...
7
Terminated
ATM
944f
944e

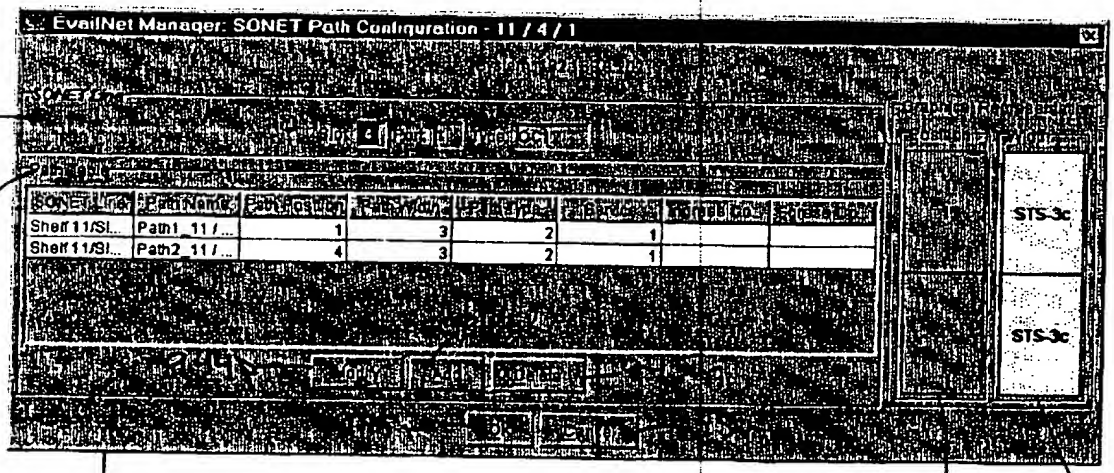

EvailNet Manager: SONET Path Configuration - 11 / 4 / 1
945a
945g
SONET Line
Path Name
Path Position
Path Width
Path Type
Status
Ingress Con
Egress Con
Shelf 11/Sl...
Path1_11 /...
1
3
2
1
Shelf 11/Sl...
Path2_11 /...
4
3
2
1
STS-3c
STS-3c
945
945e
945f

Fig. 5g

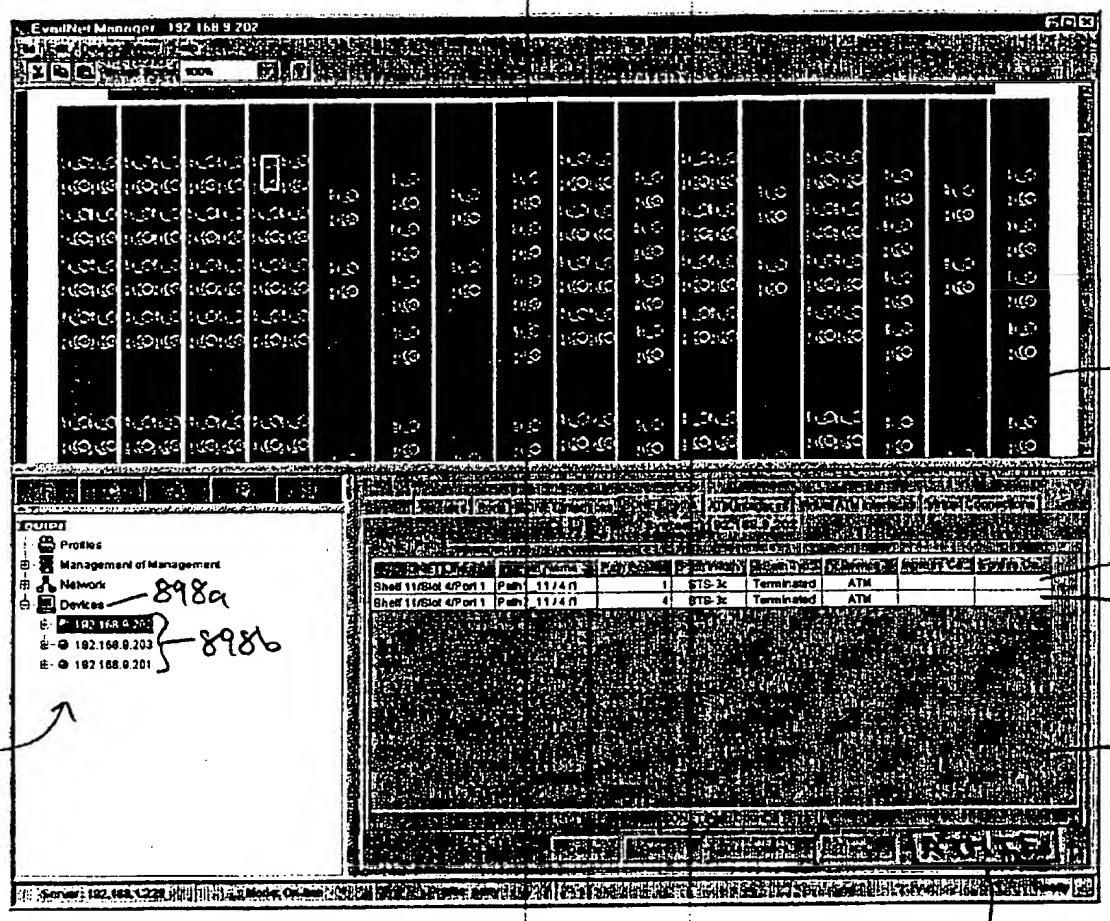

895
896a
898a
898b
898
897
942a
942b
942c
Profiles
Management of Management
Network
Devices
192.168.0.203
192.168.0.201

Fig. 5h

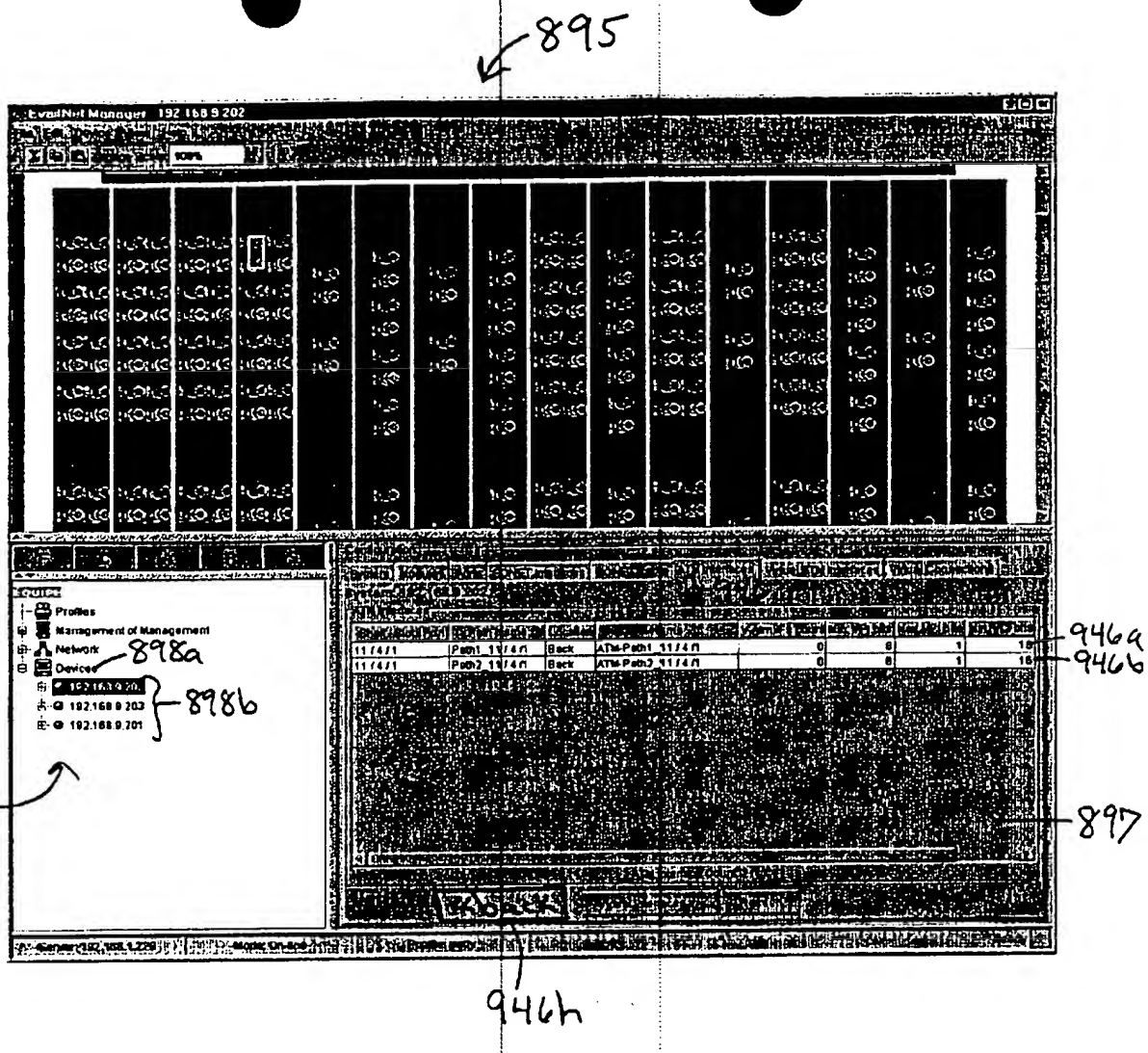

895
Profiles
Management of Management
Network
Devices
898a
8986
898
946a
946b
897
946h

Fig. 5i

Fig. 5j

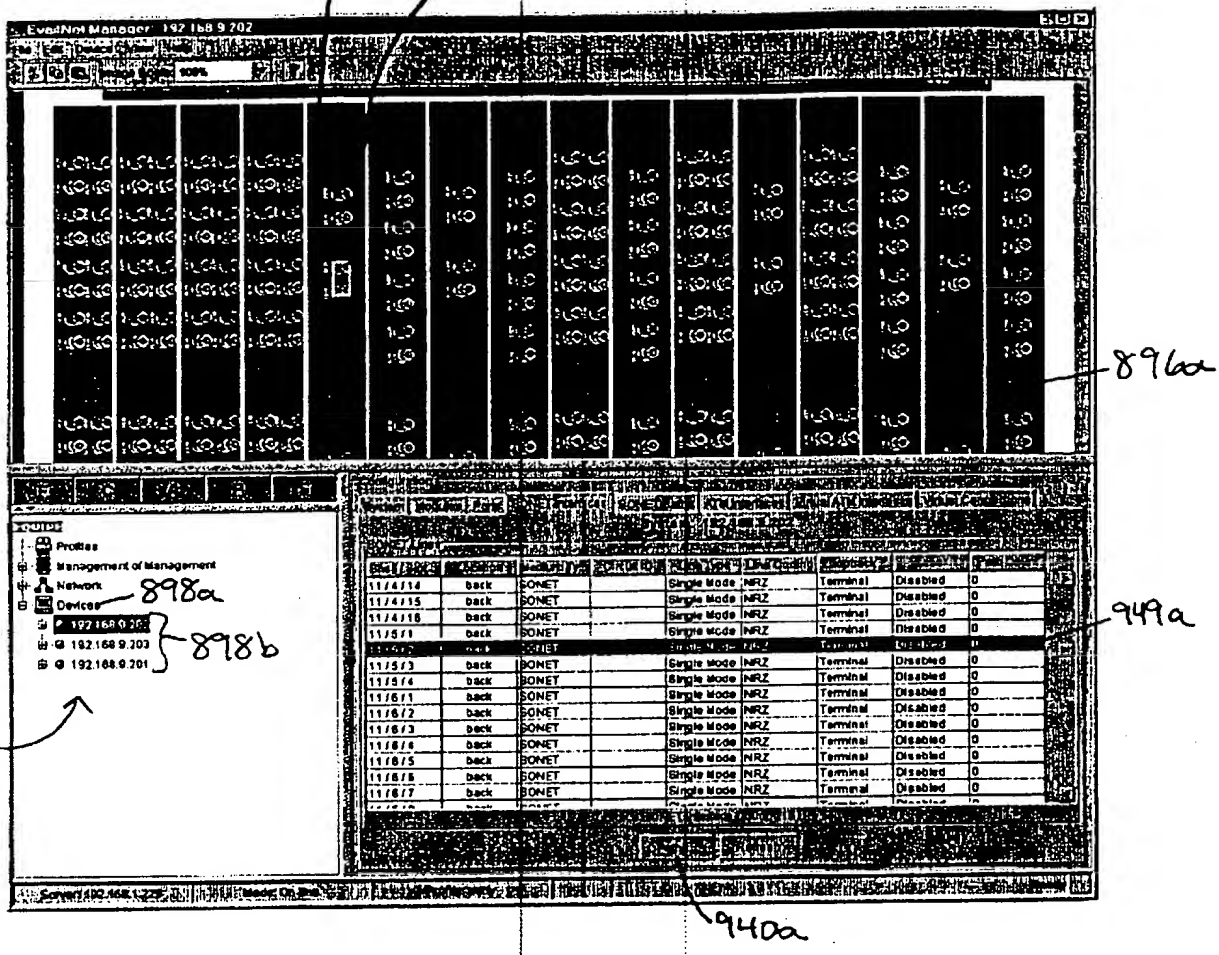

556d
941a
815
896a
898a
898b
898
949a
940a

Fig. 5K

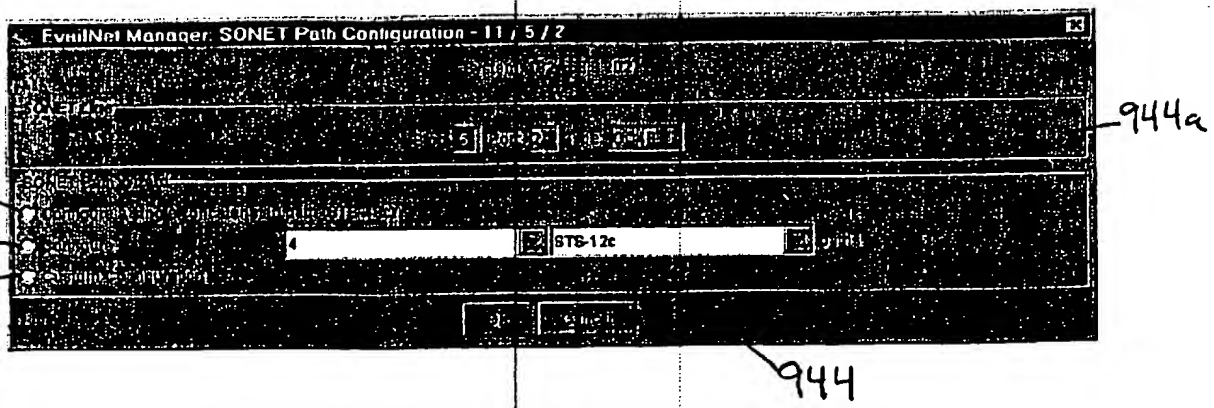

EventNet Manager: SONET Path Configuration - 11 / 5 / 2
944a
944b
944c
944d
STS-12c
944

Fig. 5L

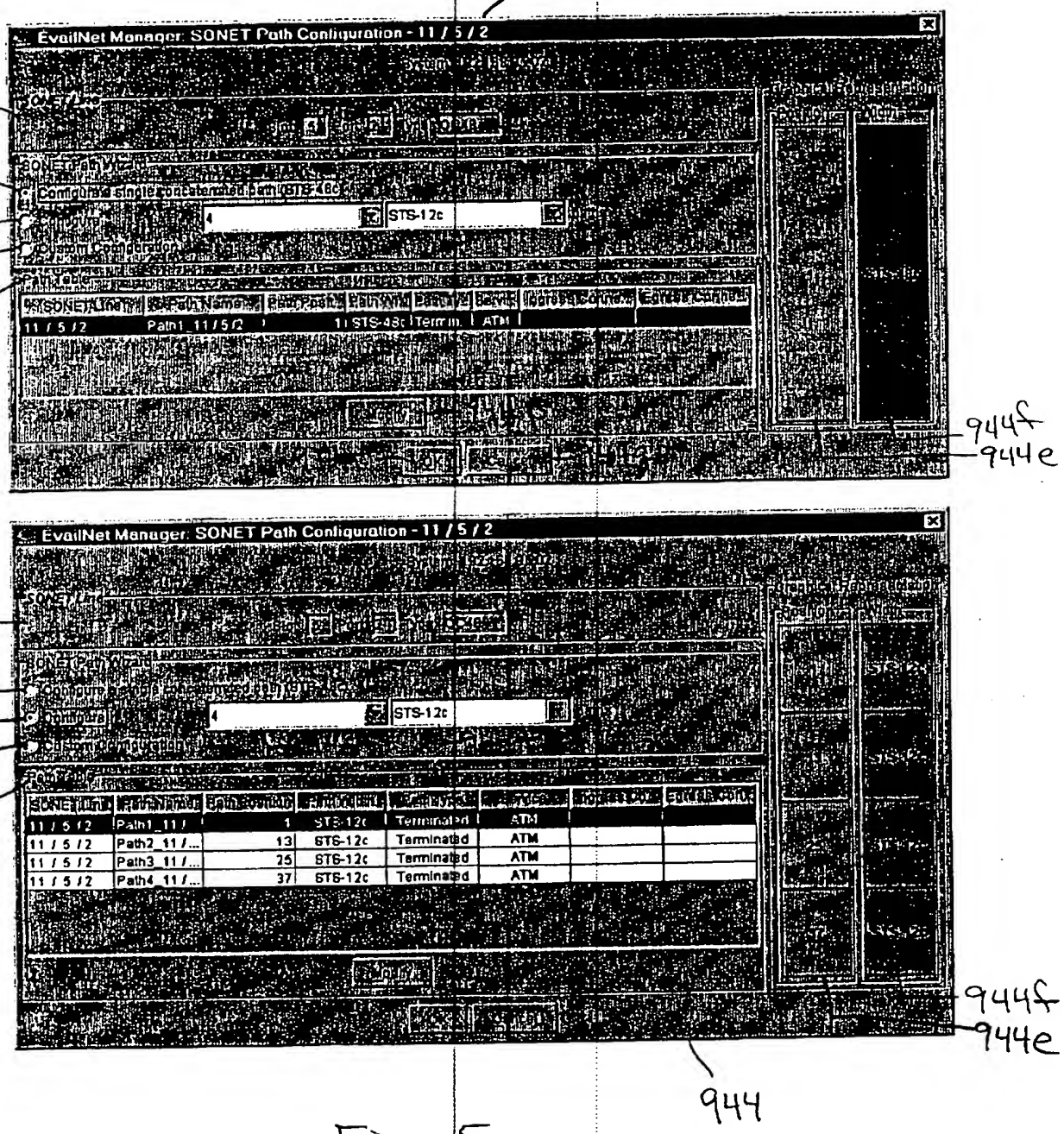

944
EvailNet Manager: SONET Path Configuration - 11 / 5 / 2
944a
944b
944c
944d
944g
944f
944e
STS-12c
11 / 5 / 2
Path1_11 / 5 / 2
Path2_11 / ...
Path3_11 / ...
Path4_11 / ...
13
25
37
Terminated
ATM

Fig. 5m

Fig. 5n

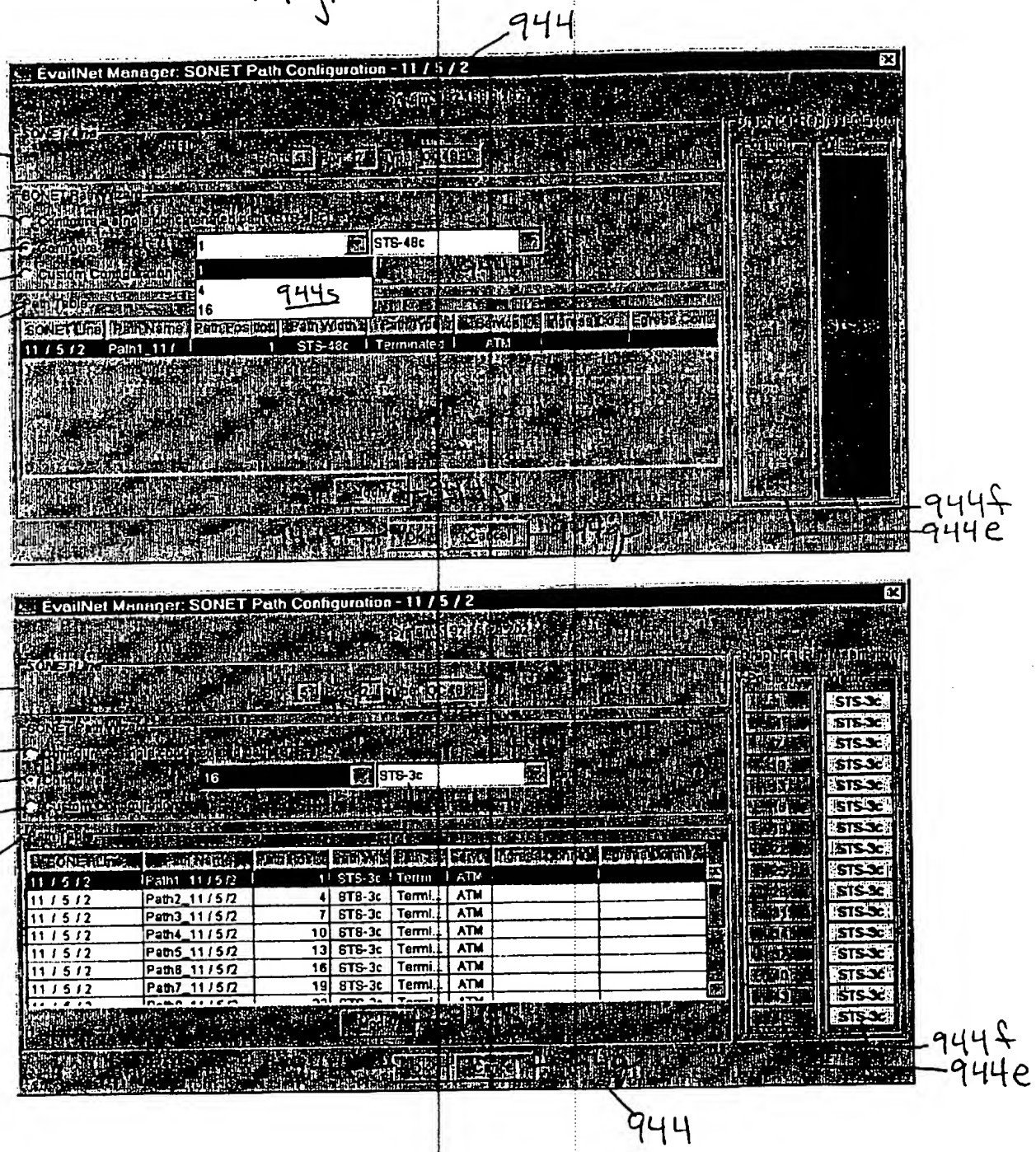

944
EvailNet Manager: SONET Path Configuration - 11 / 5 / 2
944a
944b
944c
944d
944g
944f
944e
944
STS-48c
STS-3c
SONET Line
Path Name
Path Position
Path Width
Path Type
Endpoint Config
11 / 5 / 2
Path1_11 /
Terminated
ATM
Path1_11 / 5 / 2
Path2_11 / 5 / 2
Path3_11 / 5 / 2
Path4_11 / 5 / 2
Path5_11 / 5 / 2
Path6_11 / 5 / 2
Path7_11 / 5 / 2
Terminated
ATM

Fig. 5o

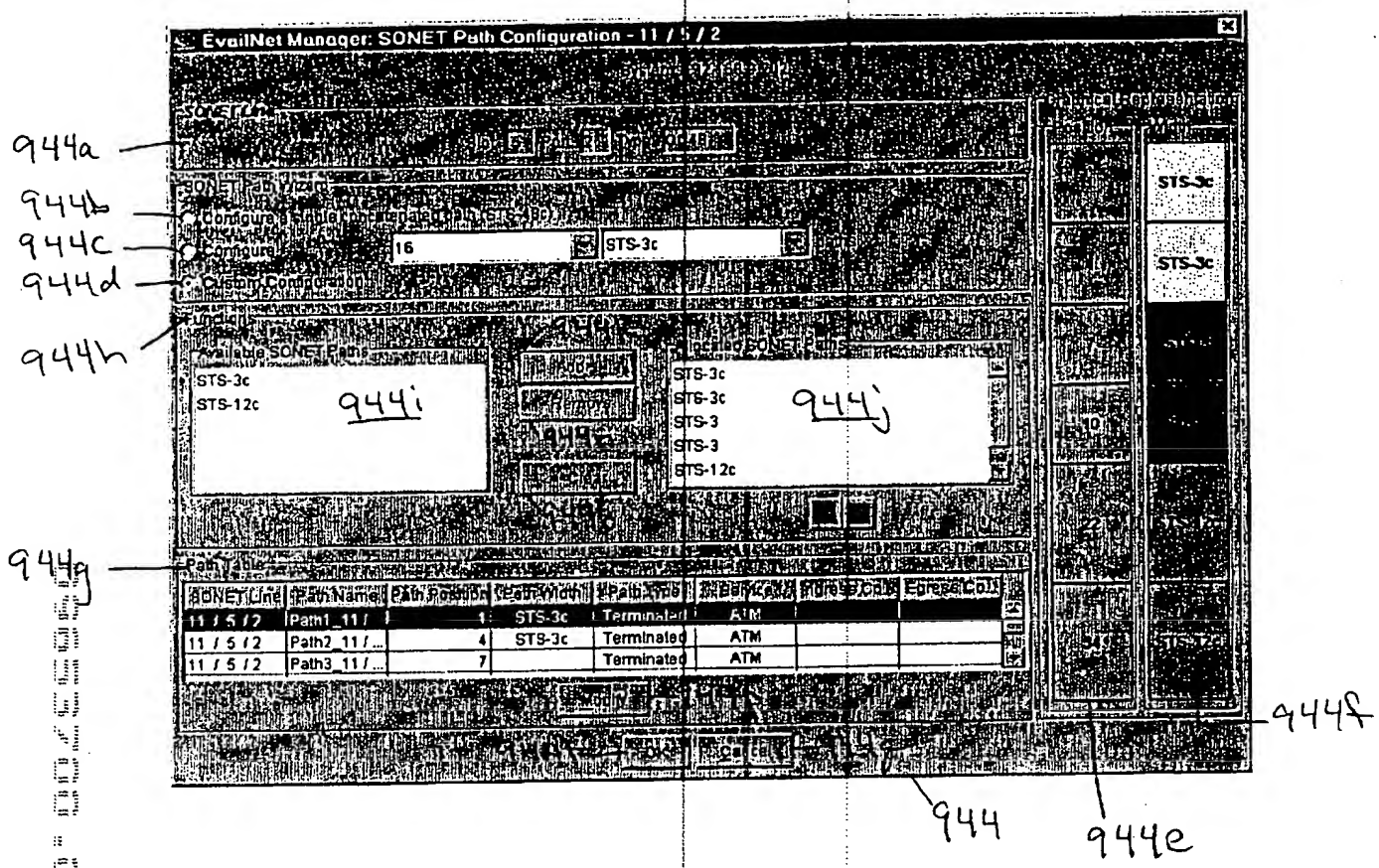

EvailNet Manager: SONET Path Configuration - 11 / 5 / 2
944a
944b
944c
944d
944h
944i
944j
944g
944f
944
944e
16
STS-3c
STS-3c
STS-12c
STS-3c
STS-3c
STS-3
STS-3
STS-12c
Path Table
SONET Line
Path Name
Path Position
Path Width
Path Type
Terminated
ATM
11 / 5 / 2
Path1_11 /
1
STS-3c
11 / 5 / 2
Path2_11 /...
4
STS-3c
Terminated
ATM
11 / 5 / 2
Path3_11 /...
7
Terminated
ATM

Fig. 5f

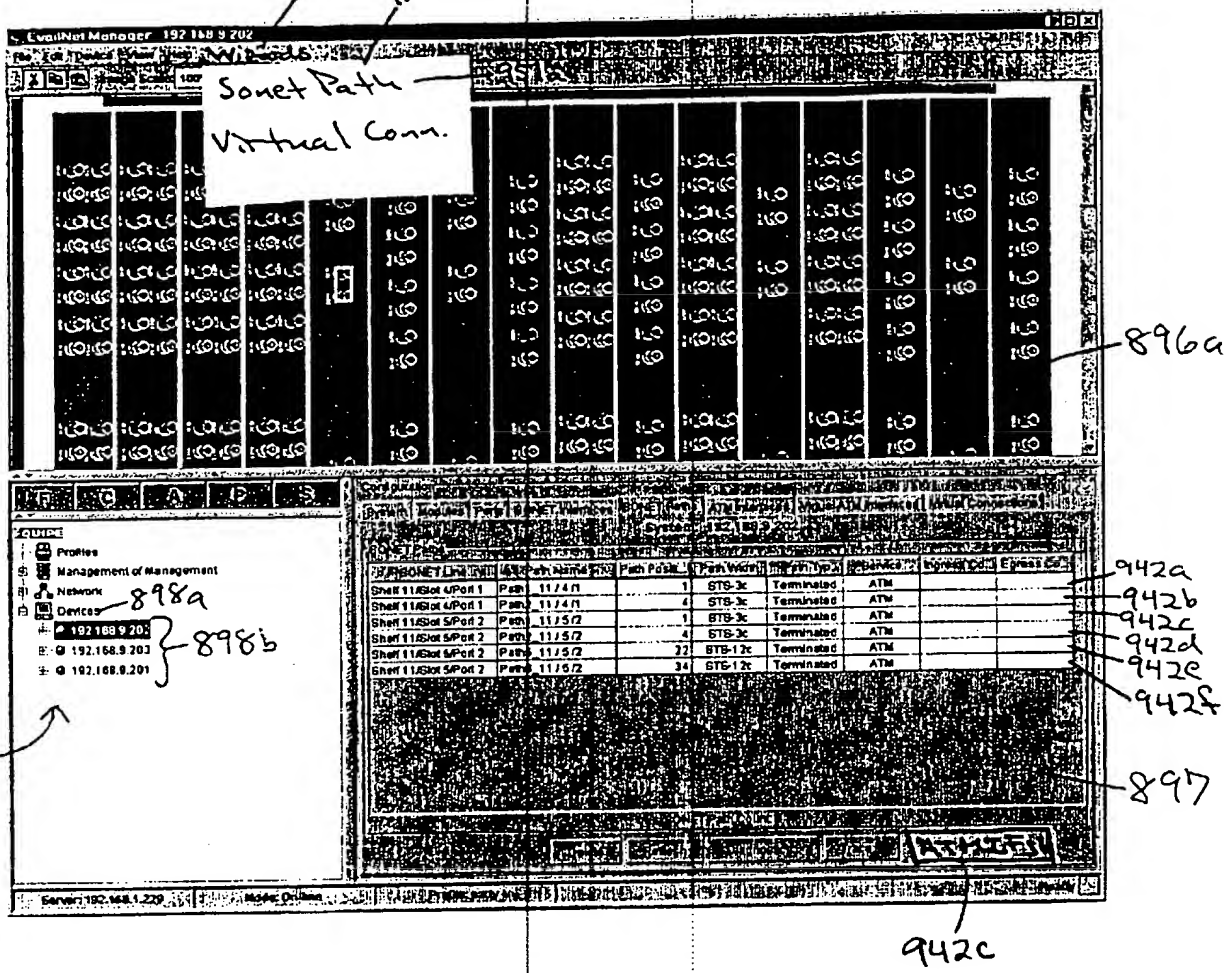

895
951
957b
Sonet Path
Virtual Conn.
896a
898a
898b
898
942a
942b
942c
942d
942e
942f
897
942c

Fig. 5g

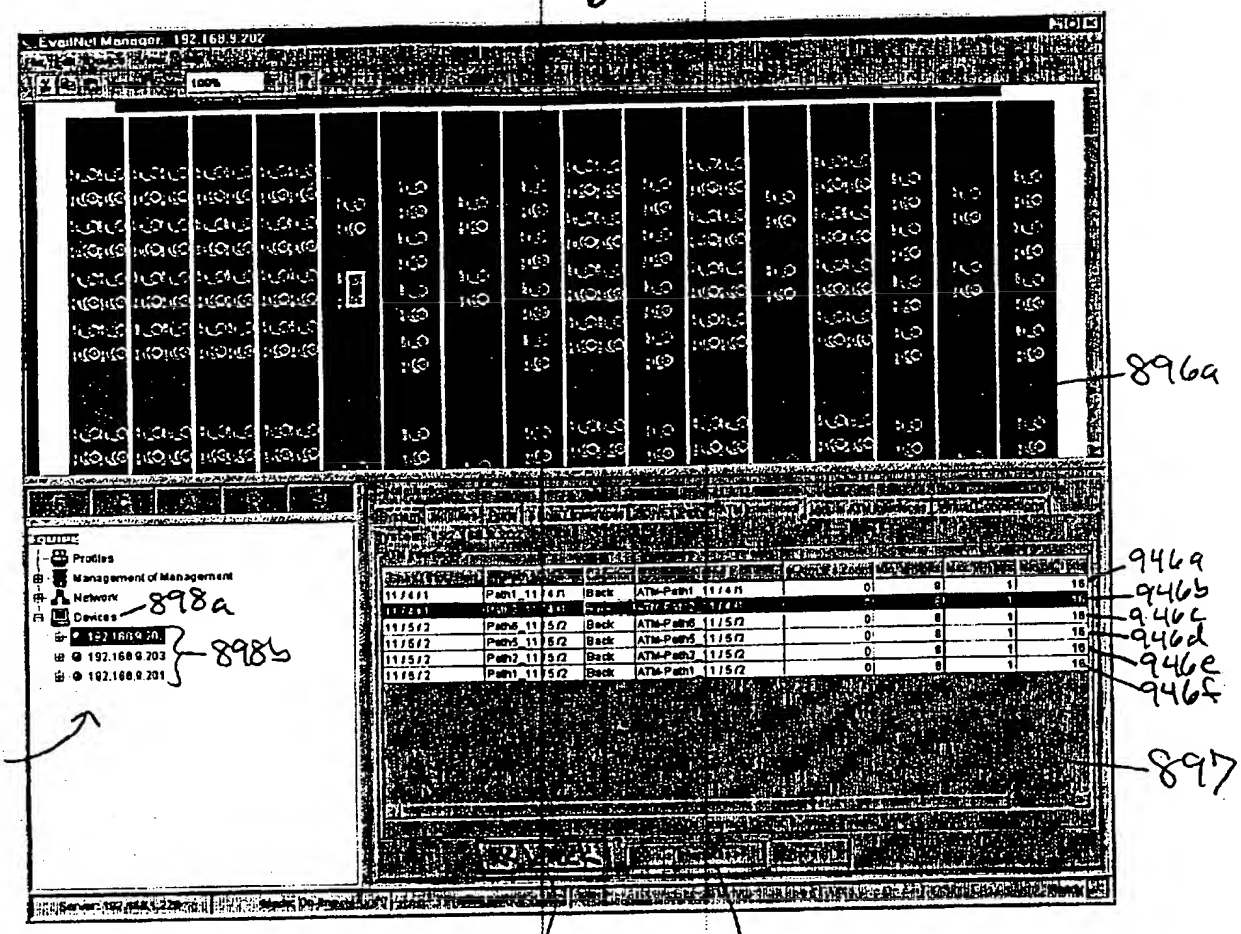

895
EvaliNet Manager 192.168.9.202
896a
Profiles
Management of Management
Network
Devices
898a
192.168.9.203
192.168.9.201
898b
898
946a
946b
946c
946d
946e
946f
897
946h
946g

Fig. 5F

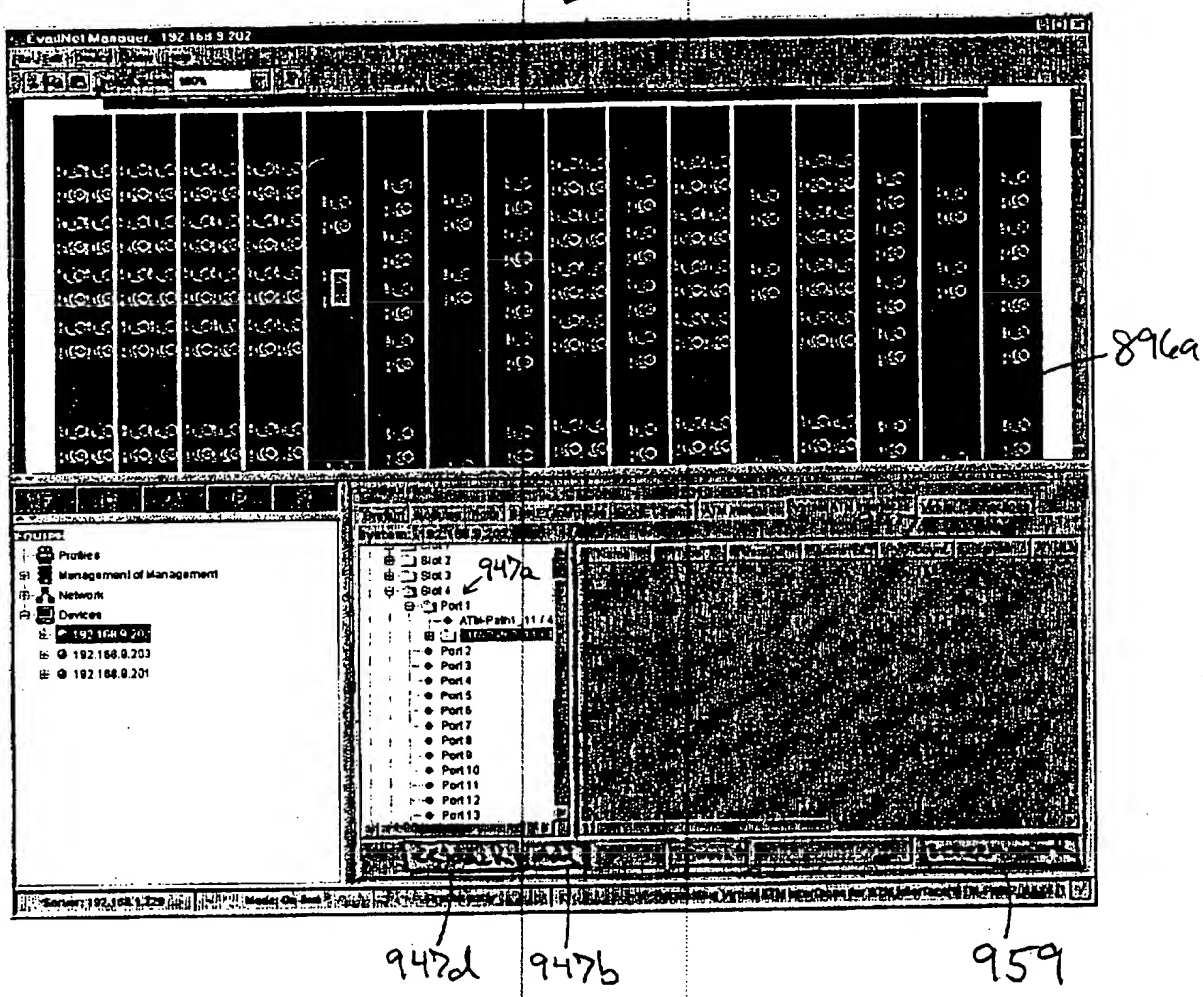
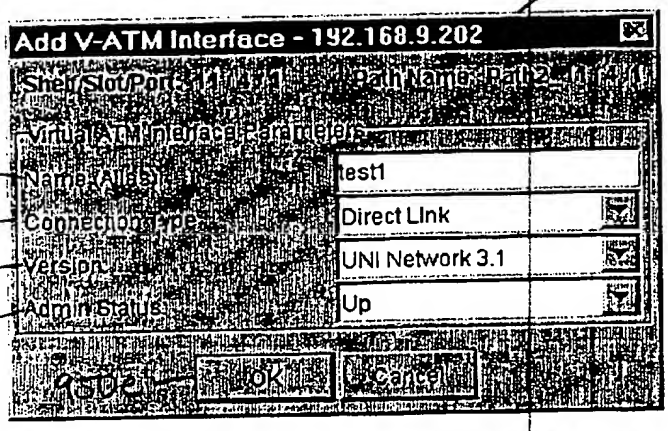


Fig. 5s

Fig. 5t


950
Add V-ATM Interface - 192.168.9.202
Shelf/Slot/Port: 11 / 4 / 1
Path Name: Path2
Virtual ATM Interface Parameters
950d
Name (Alias)
test1
950a
Connection Type
Direct Link
950b
Version
UNI Network 3.1
950c
Admin Status
Up
950e
OK
Cancel

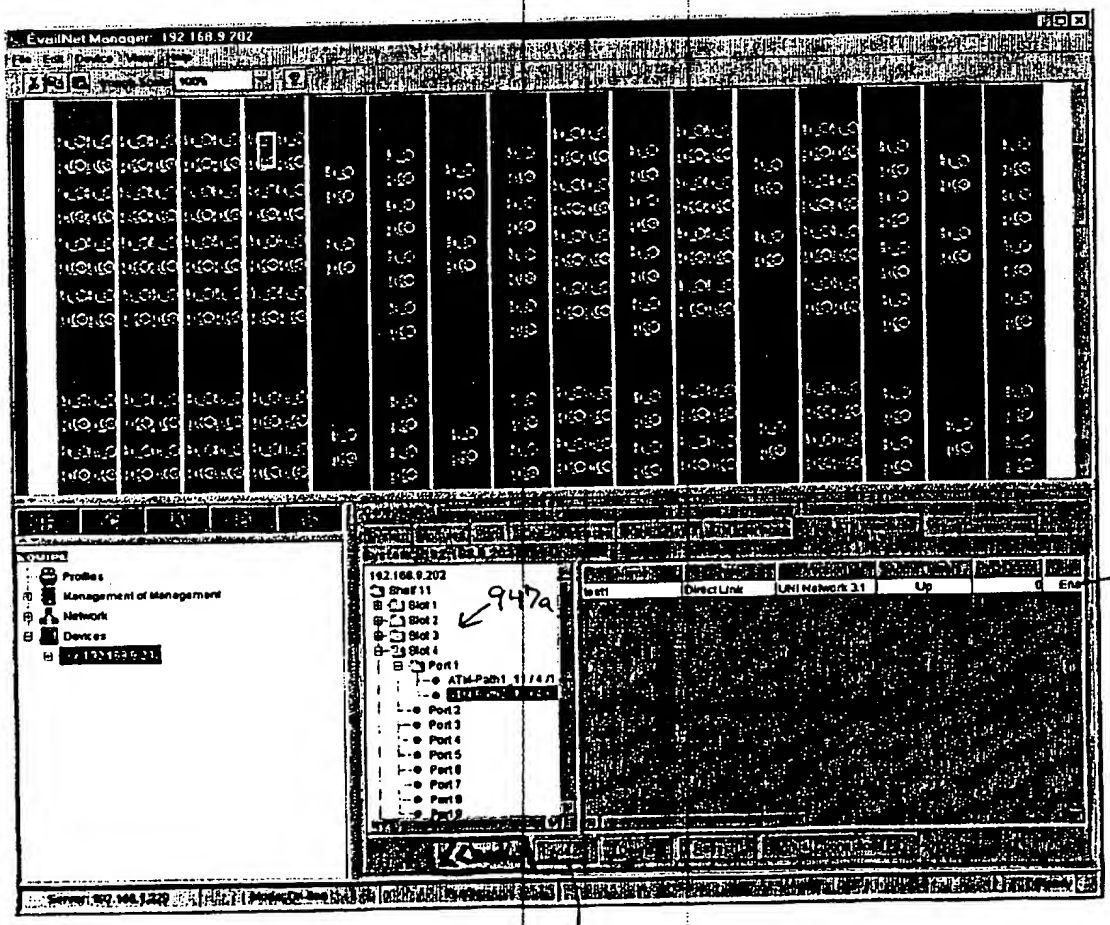

947a
947b
947c

Fig. 5u

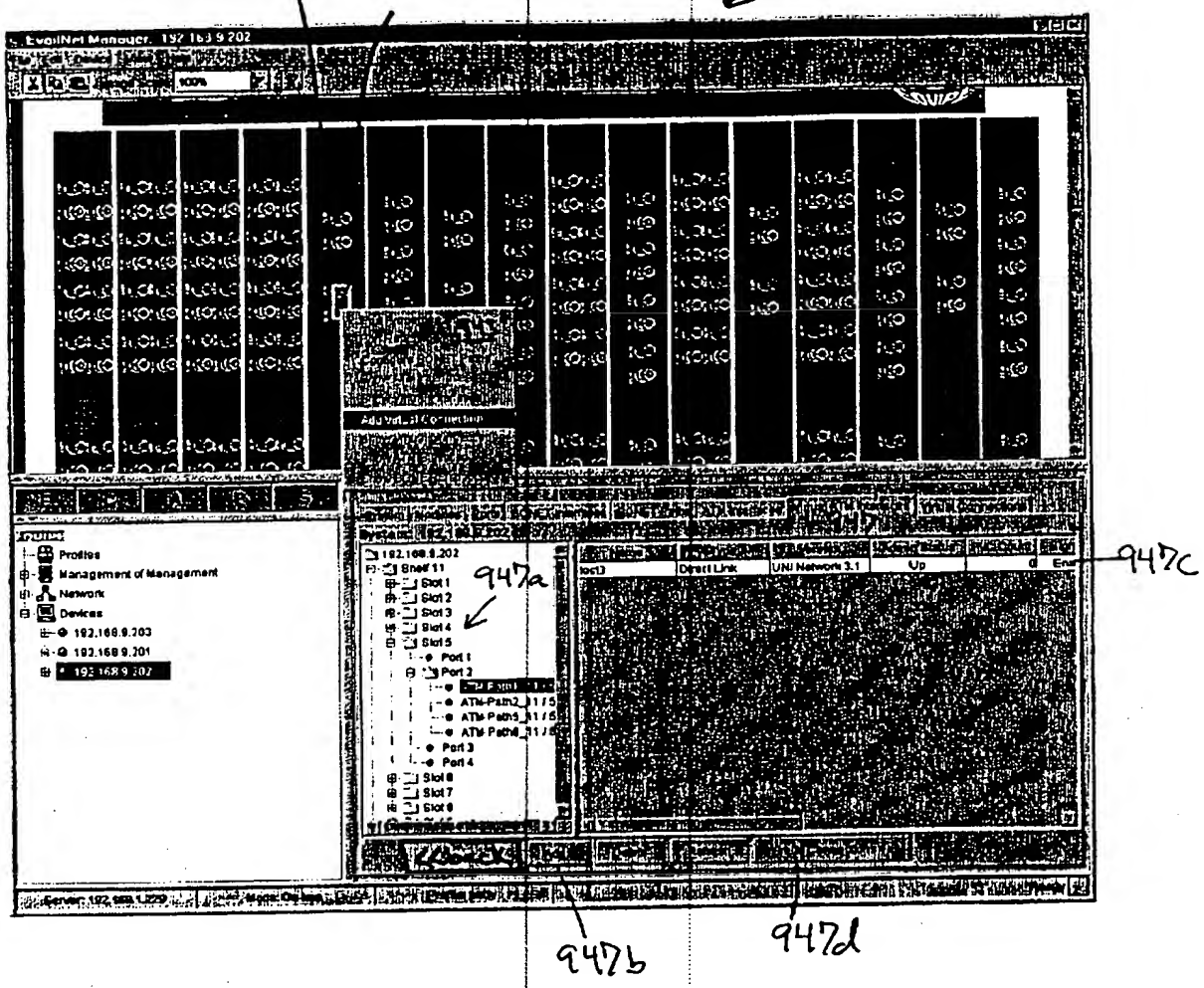


Fig. 5v

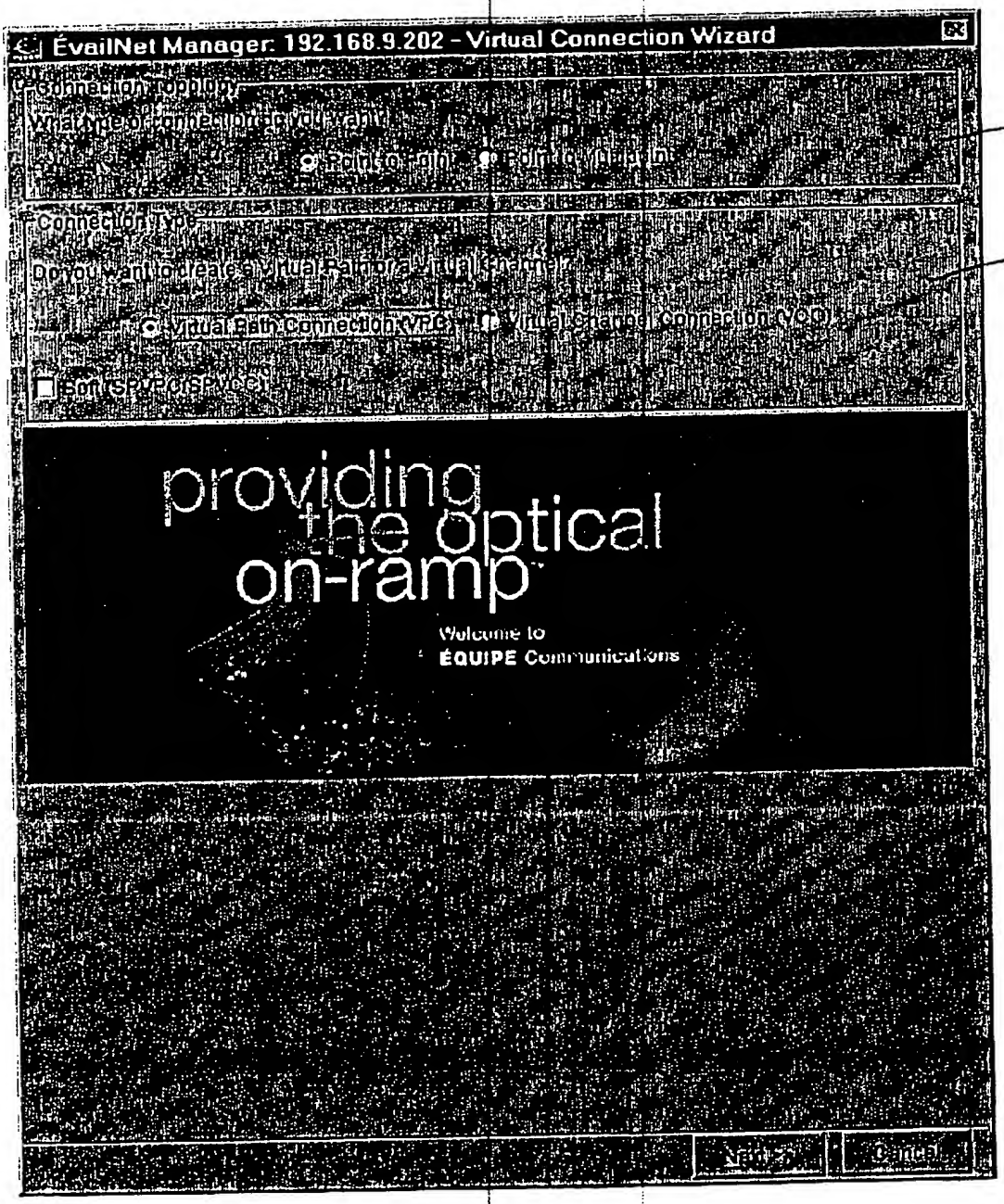

952
EvailNet Manager: 192.168.9.202 - Virtual Connection Wizard
952a
952b
providing the optical on-ramp
Welcome to
EQUIPE Communications

Fig. 5w

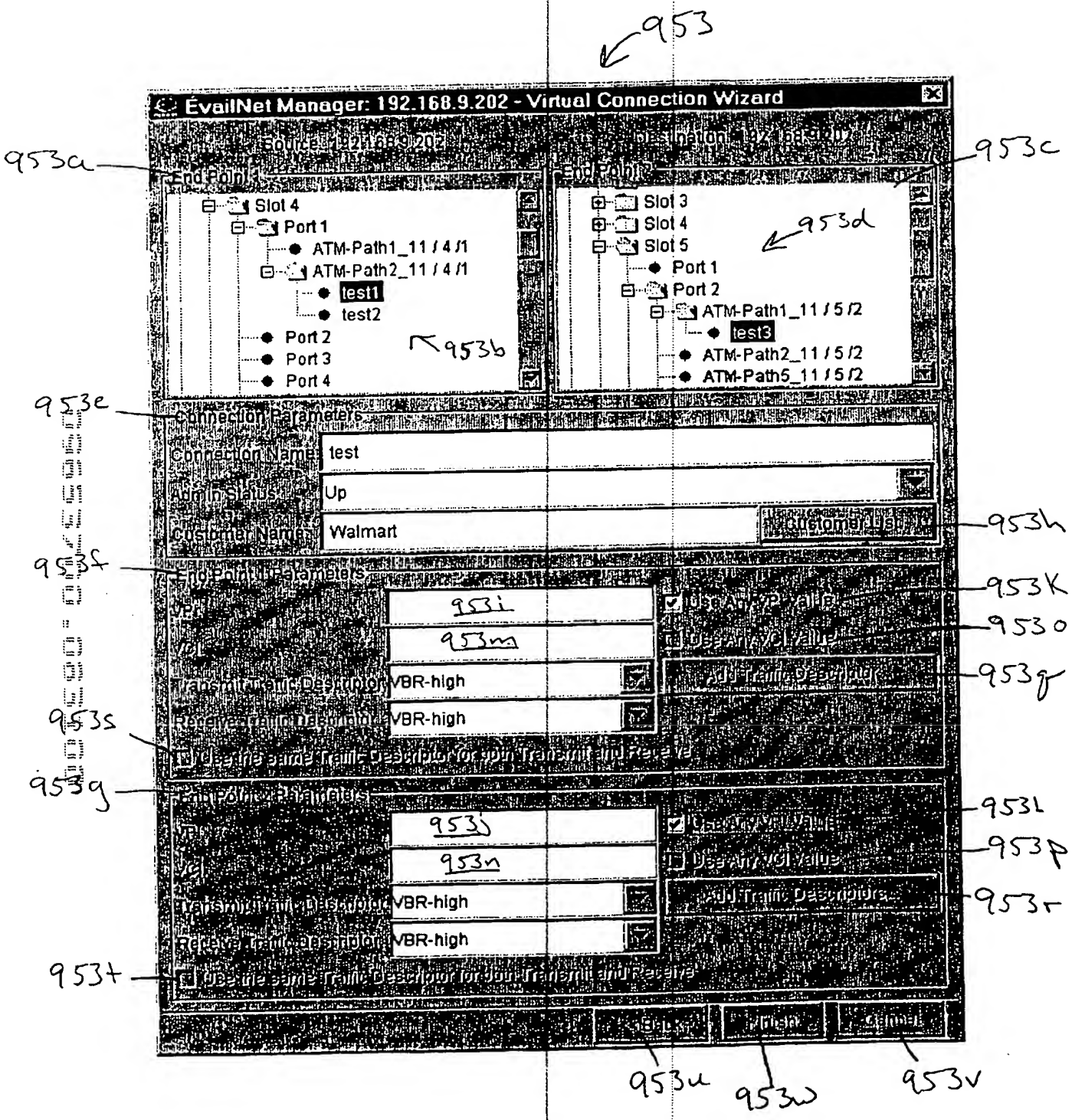

953
EvailNet Manager: 192.168.9.202 - Virtual Connection Wizard
953a
End Point 1
Slot 4
Port 1
ATM-Path1_11 / 4 /1
ATM-Path2_11 / 4 /1
test1
test2
Port 2
Port 3
Port 4
953b
953c
End Point 2
Slot 3
Slot 4
Slot 5
953d
Port 1
Port 2
ATM-Path1_11 / 5 /2
test3
ATM-Path2_11 / 5 /2
ATM-Path5_11 / 5 /2
953e
Connection Parameters
Connection Name:
test
Admin Status:
Up
Customer Name:
Walmart
953h
953f
End Point 1 Parameters
953i
953m
953K
953o
VBR-high
VBR-high
953g
953s
953g
End Point 2 Parameters
953j
953n
953L
953p
VBR-high
VBR-high
953r
953t
953u
953w
953v

Fig. 5x

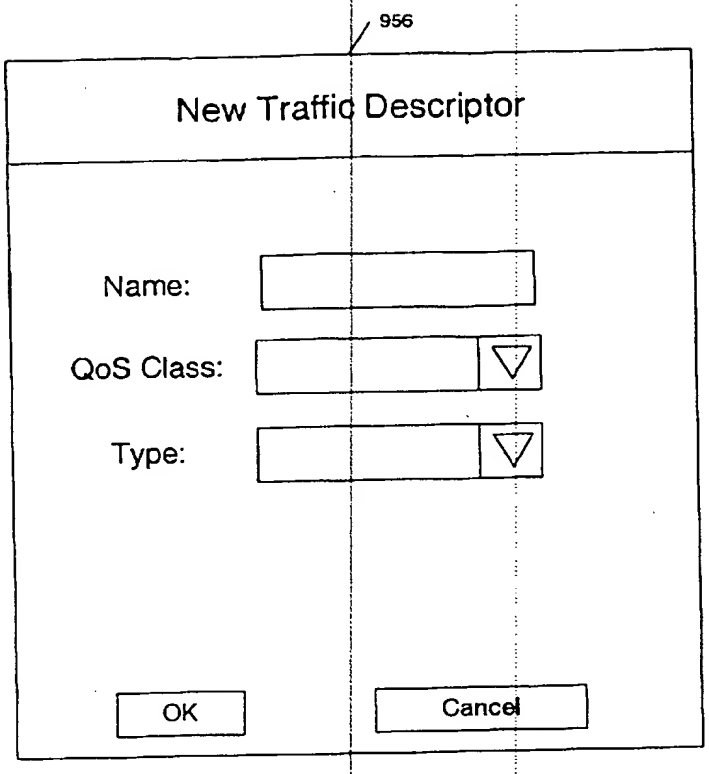


Fig. 5Y

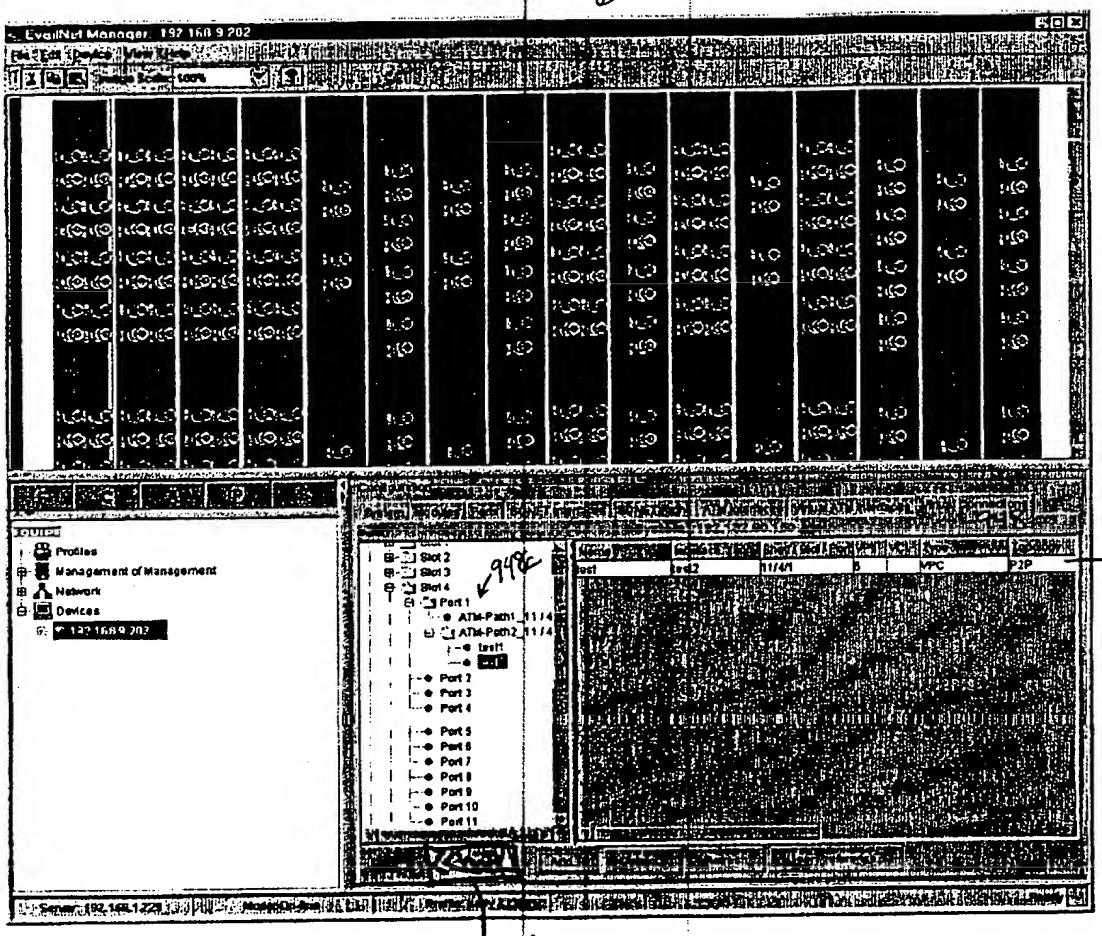

895
948a
948b
948c
Profiles
Management of Management
Network
Devices
Slot 2
Slot 3
Slot 4
Port 1
Port 2
Port 3
Port 4
Port 5
Port 6
Port 7
Port 8
Port 9
Port 10
Port 11

Fig. 57

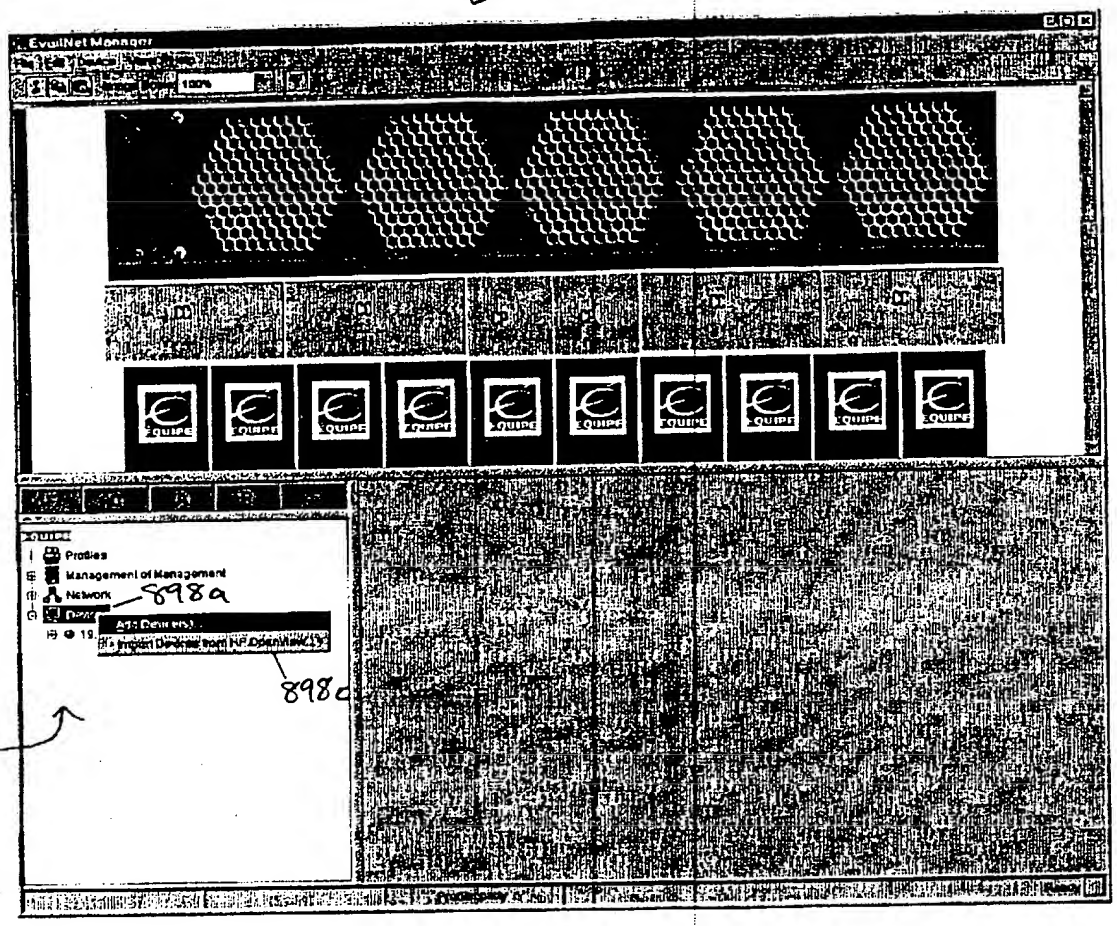

895
EquiNet Manager
Probes
Management of Management
Network
898a
898c
898

Fig. 6a

Fig. 6b

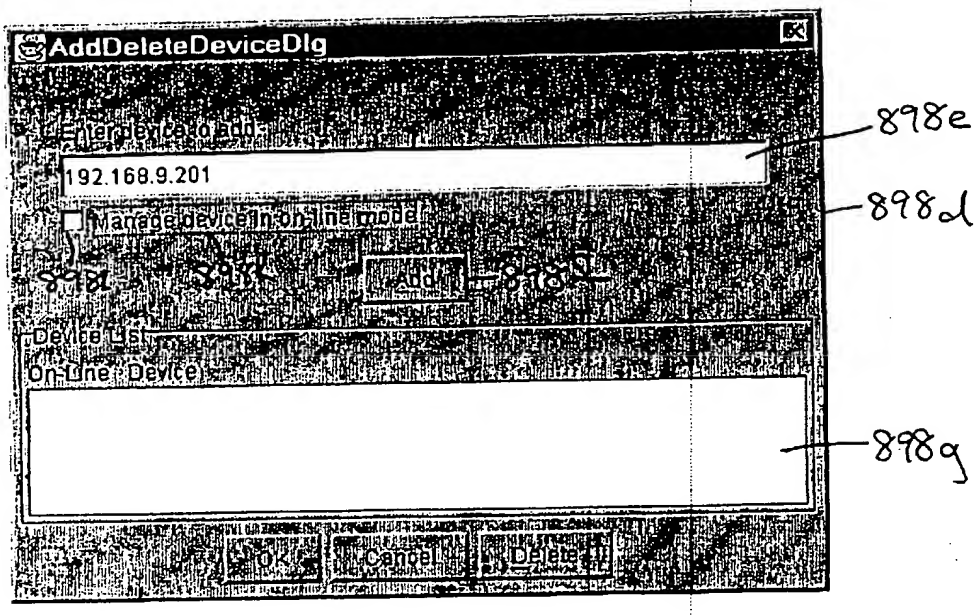
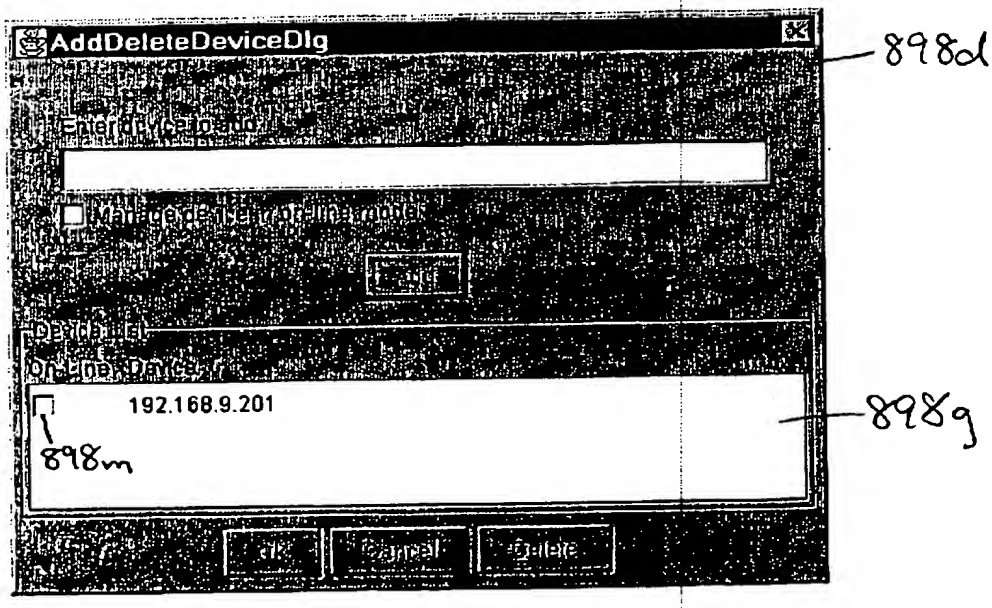

AddDeleteDeviceDlg
Enter device to add:
192.168.9.201
Manage device in on-line mode
Add
Device List
On-Line Device
OK
Cancel
Delete
898e
898d
898g

Fig. 6c


AddDeleteDeviceDlg
Enter device to add:
Manage device in on-line mode
Add
Device List
On-Line Device
192.168.9.201
898m
OK
Cancel
Delete
898d
898g

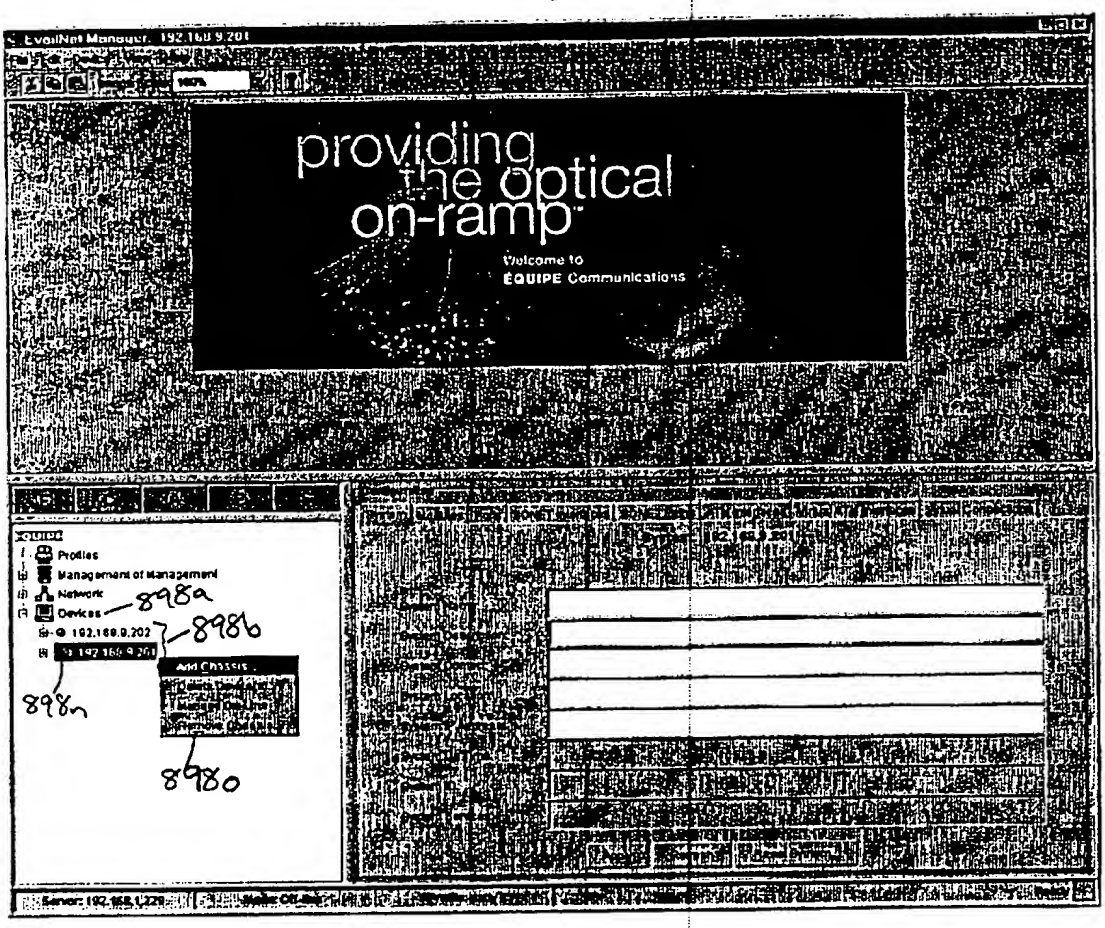

895
providing the optical on-ramp
Welcome to
EQUIPE Communications
Profiles
Management of Management
Network
Devices
898a
898b
898n
898o

Fig. 6d

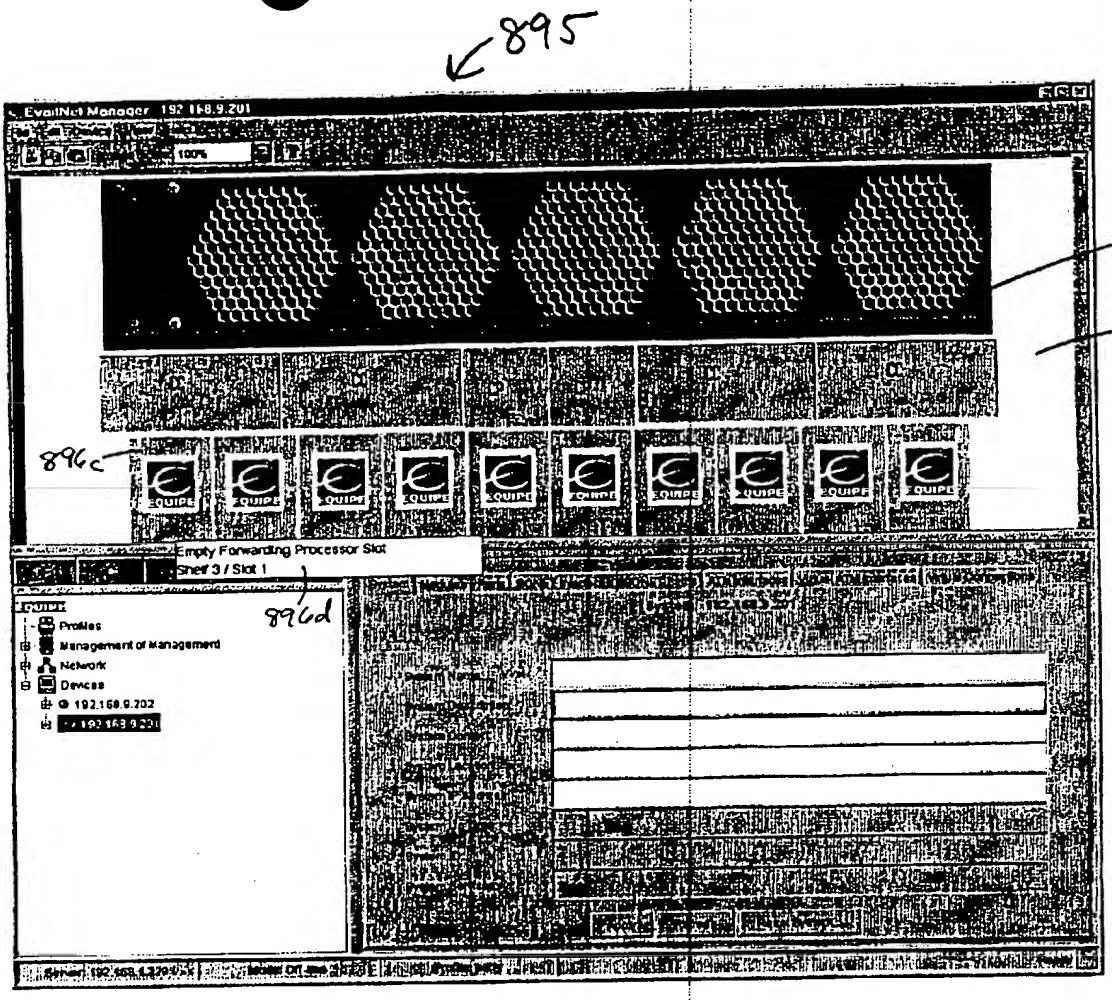

895
896a
896b
896c
896d
EquiNet Manager 192.168.9.201
Empty Forwarding Processor Slot
Shelf 3 / Slot 1
Profiles
Management of Management
Network
Devices
192.168.9.202
192.168.9.201

Fig. 6e

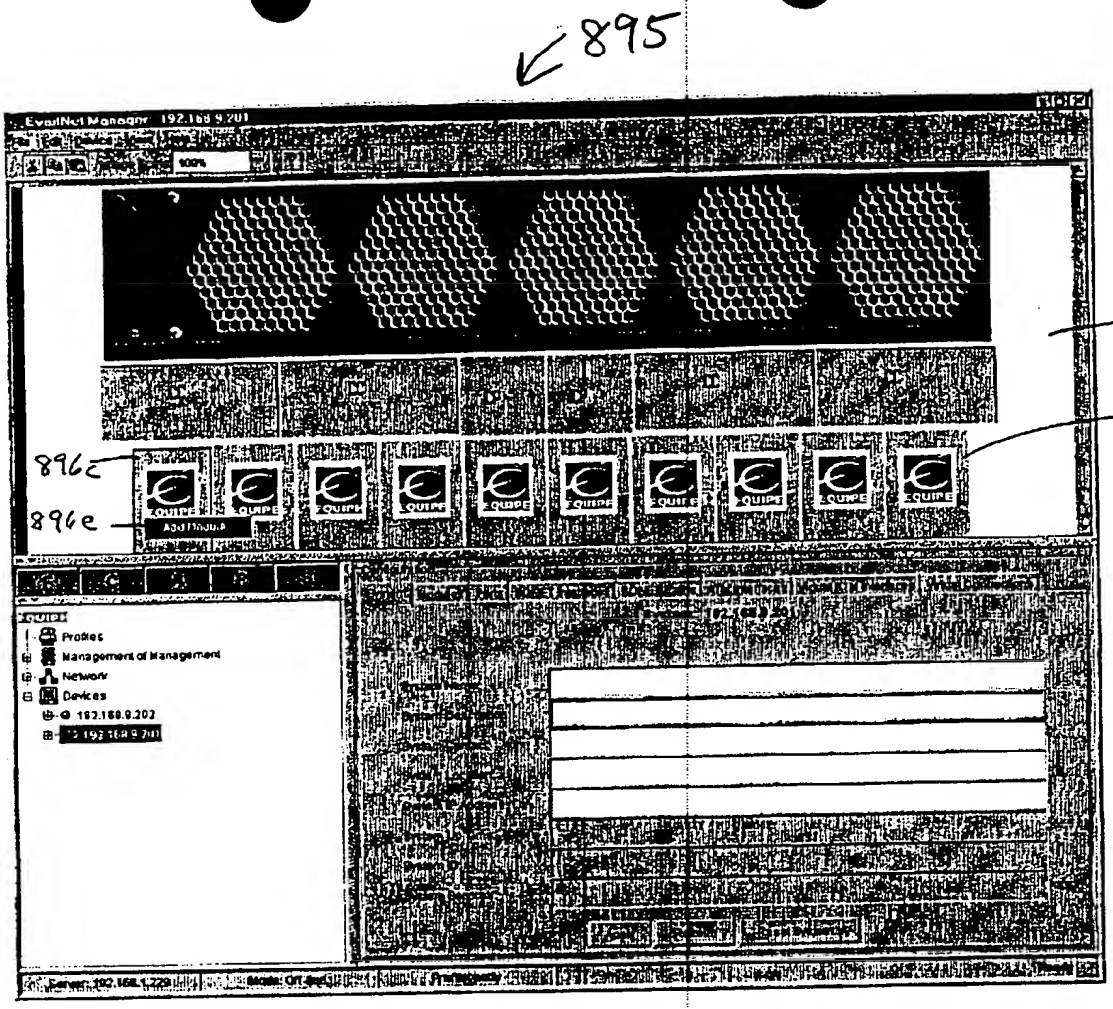

895
896b
896a
896c
896e
Profiles
Management of Management
Network
Devices

Fig. 6f

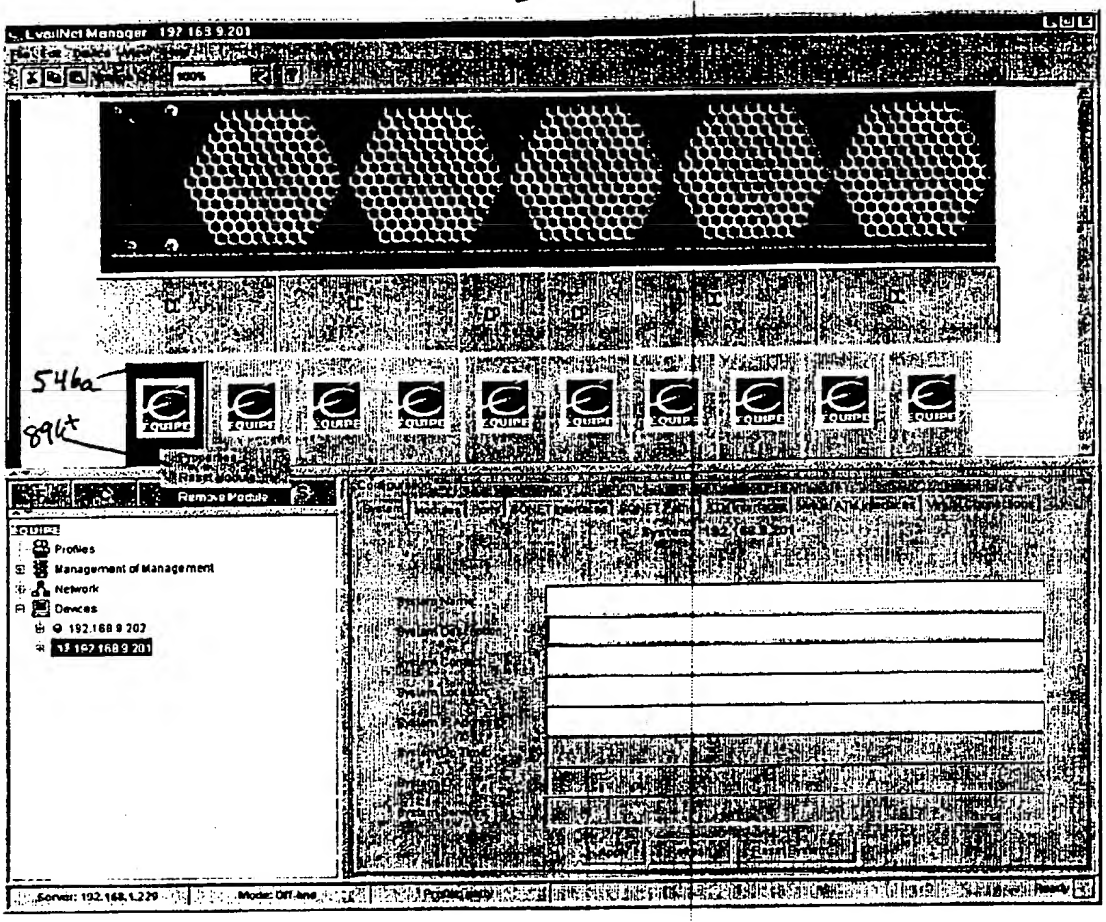

895
546a
894
Remote Focus
Profiles
Management of Management
Network
Devices
192.168.9.202
192.168.9.201

Fig. 6g

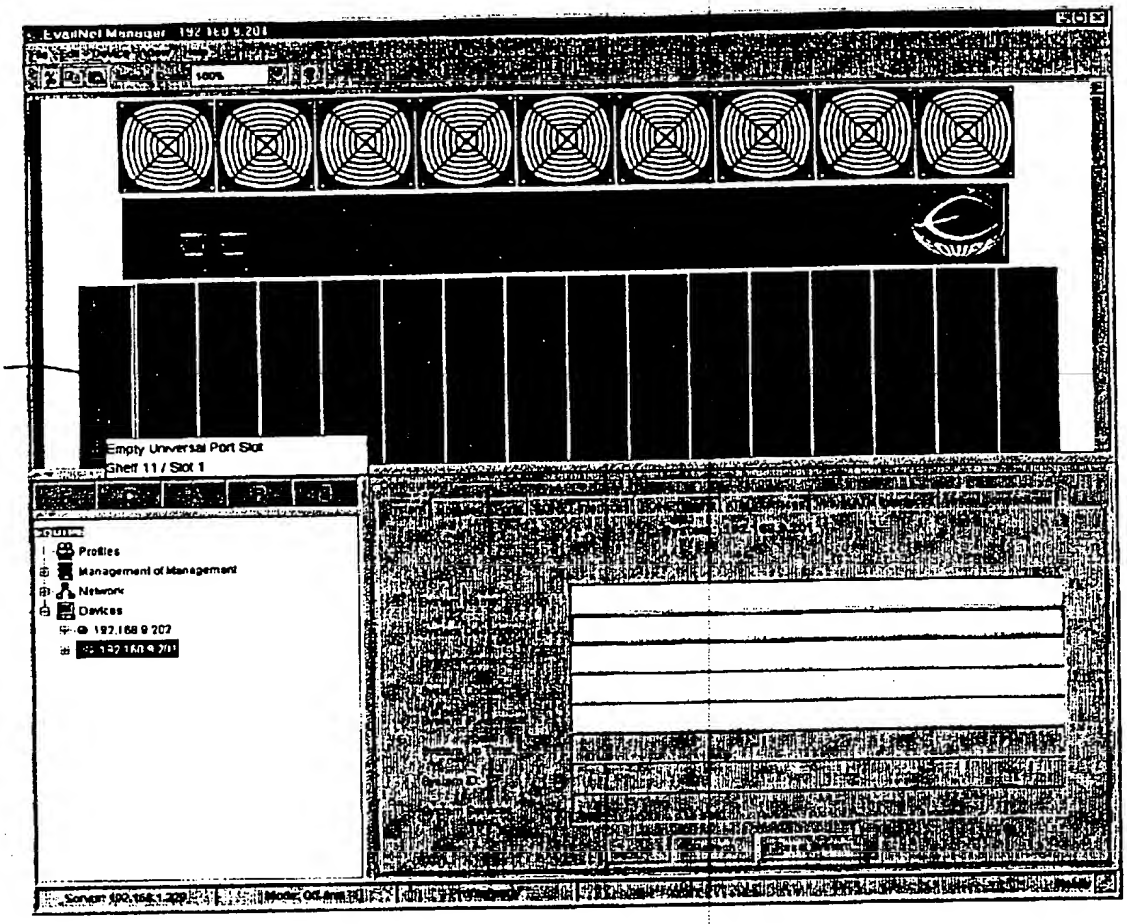

895
896
Empty Universal Port Slot
Shelf 11 / Slot 1
Profiles
Management of Management
Network
Devices

Fig. 6h

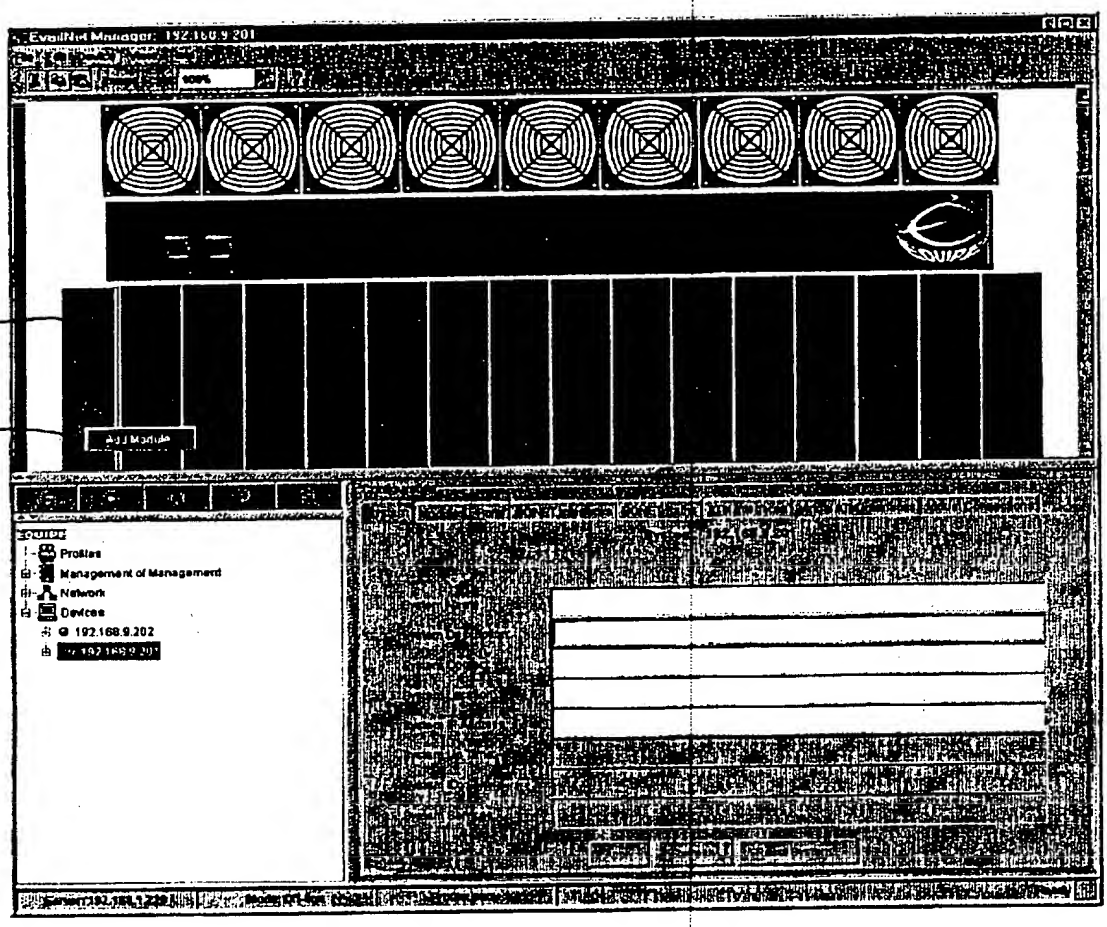
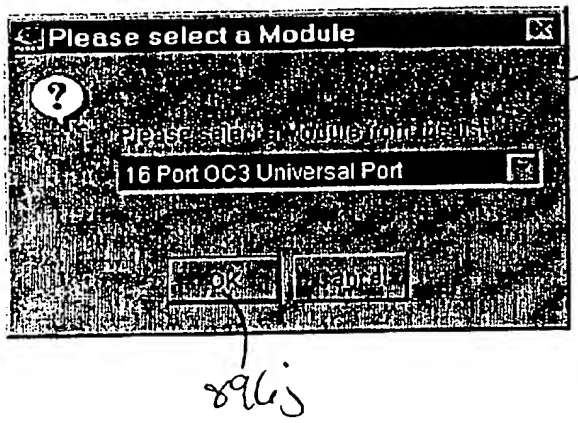

895
896f
896g
Profiles
Management of Management
Network
Devices
192.168.9.202

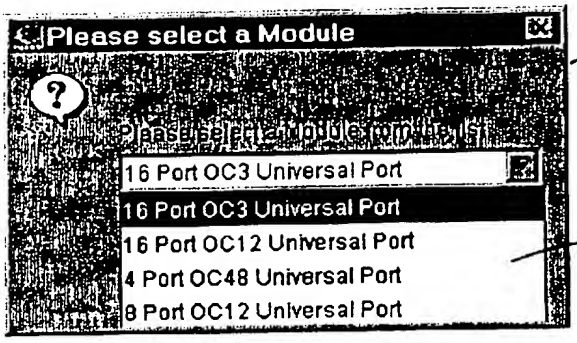
Fig. 6i

Fig. 6J



896h

896j



896h

896i

Fig. 6K

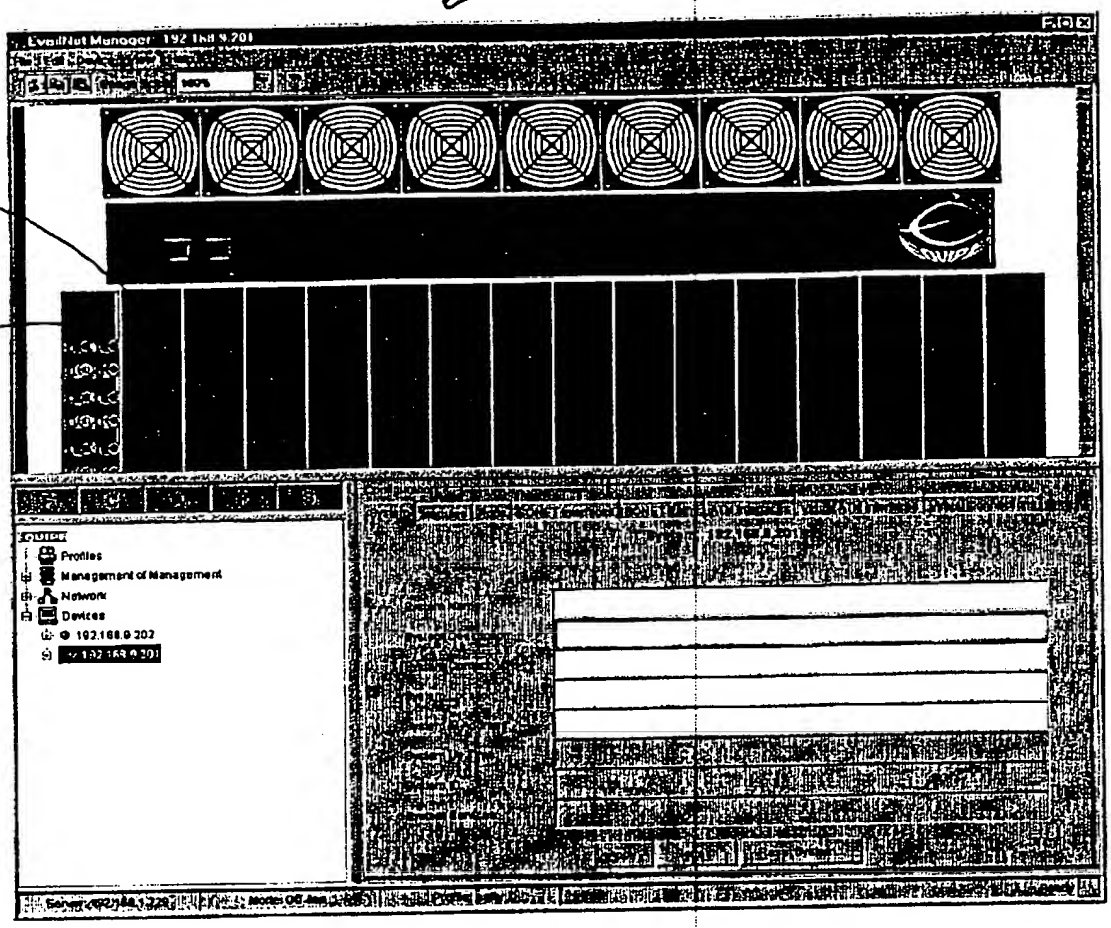

895
556i
556h
Profiles
Management of Management
Network
Devices

Fig. 6L

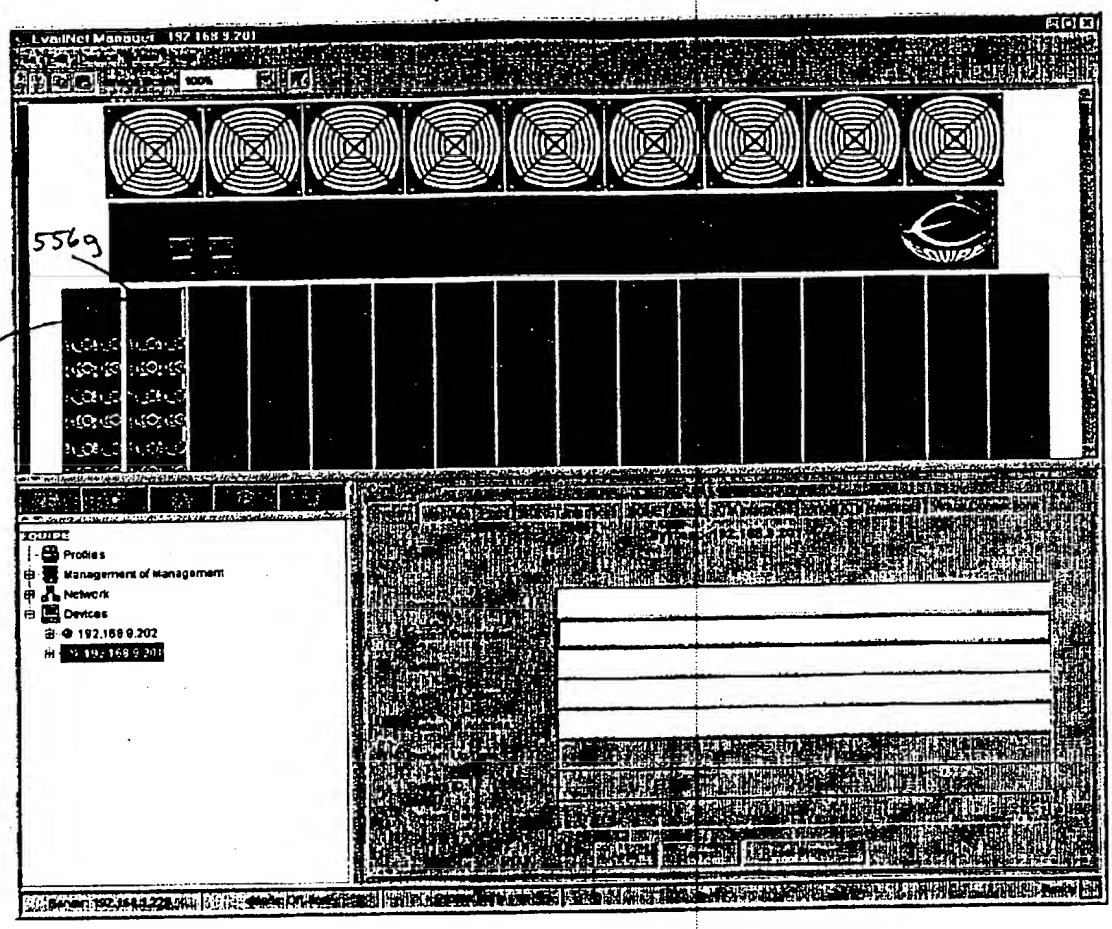

895
556g
556h
EQUIPE
Probes
Management of Management
Network
Devices
192.168.9.202

Fig.6m

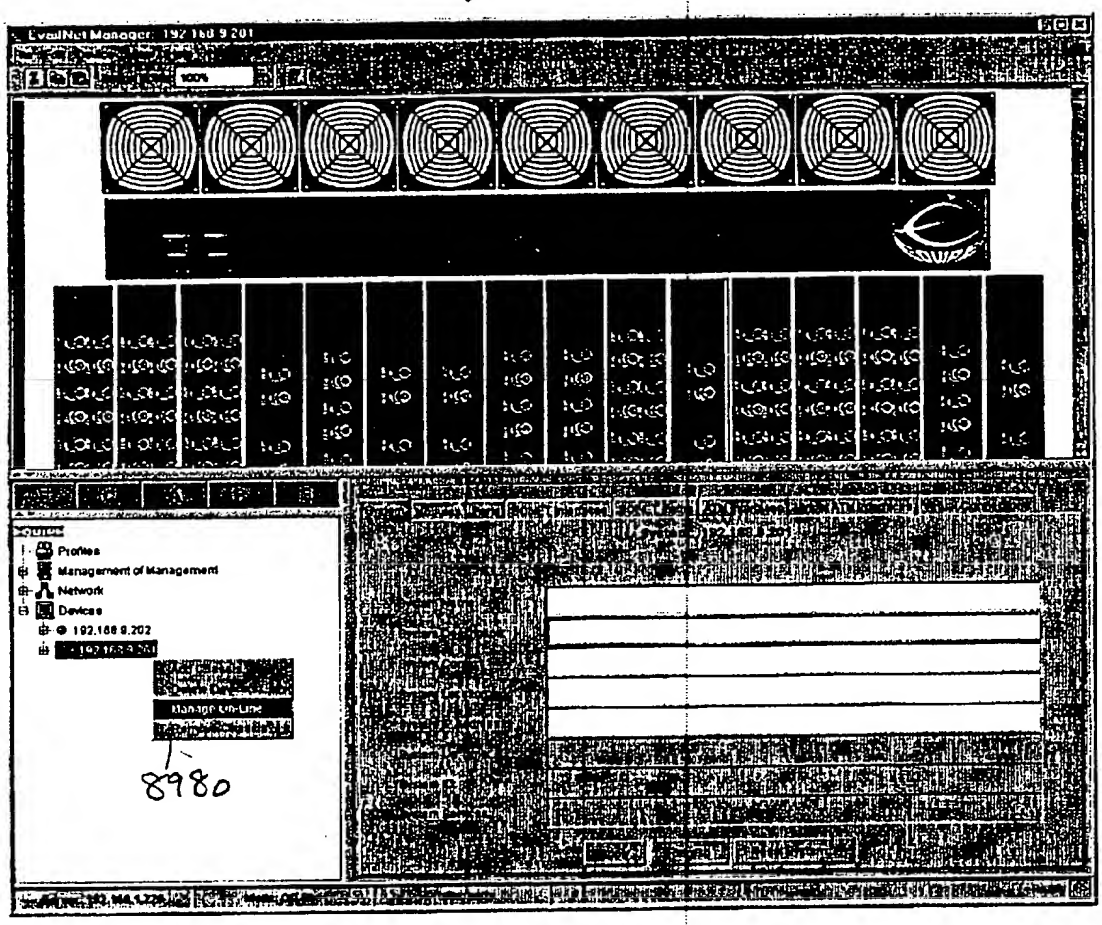

895
EquiNet Manager: 192.168.9.201
Profiles
Management of Management
Network
Devices
192.168.9.202
8980

Fig. 6n

895

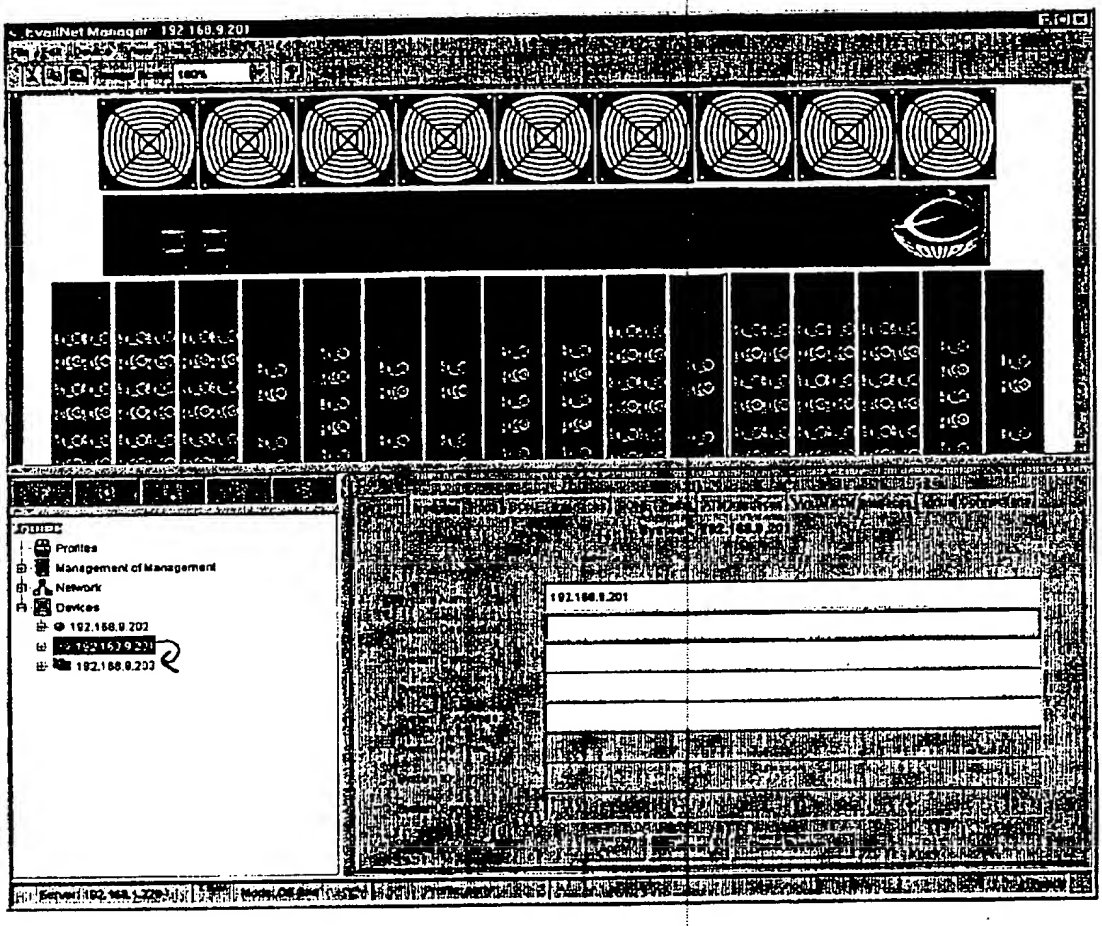

Profiles
Management of Management
Network
Devices
192.168.9.201

Fig. 60

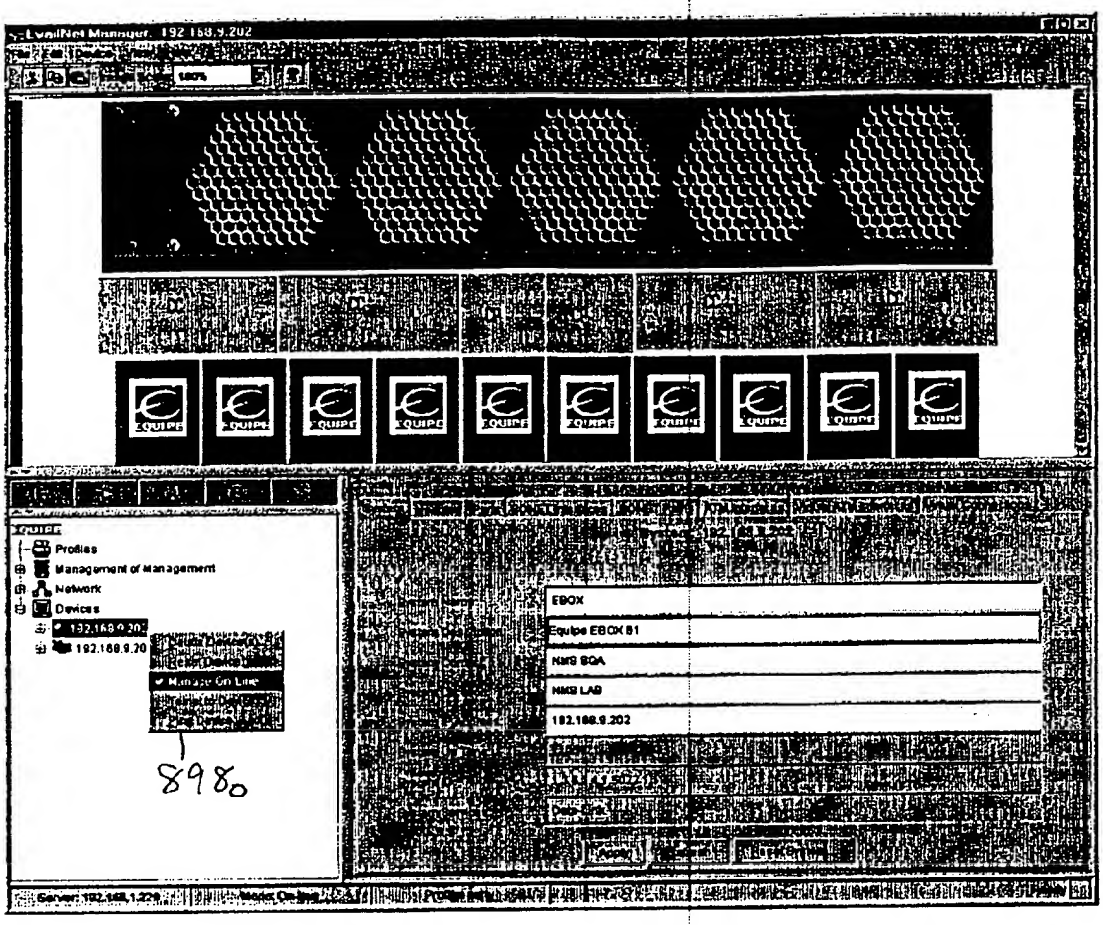

895
EvalNet Manager 192.168.9.202
Profiles
Management of Management
Network
Devices
192.168.9.20
EBOX
Equipe EBOX 81
NMS SQA
NMS LAB
192.168.9.202
8980

Fig. 6P

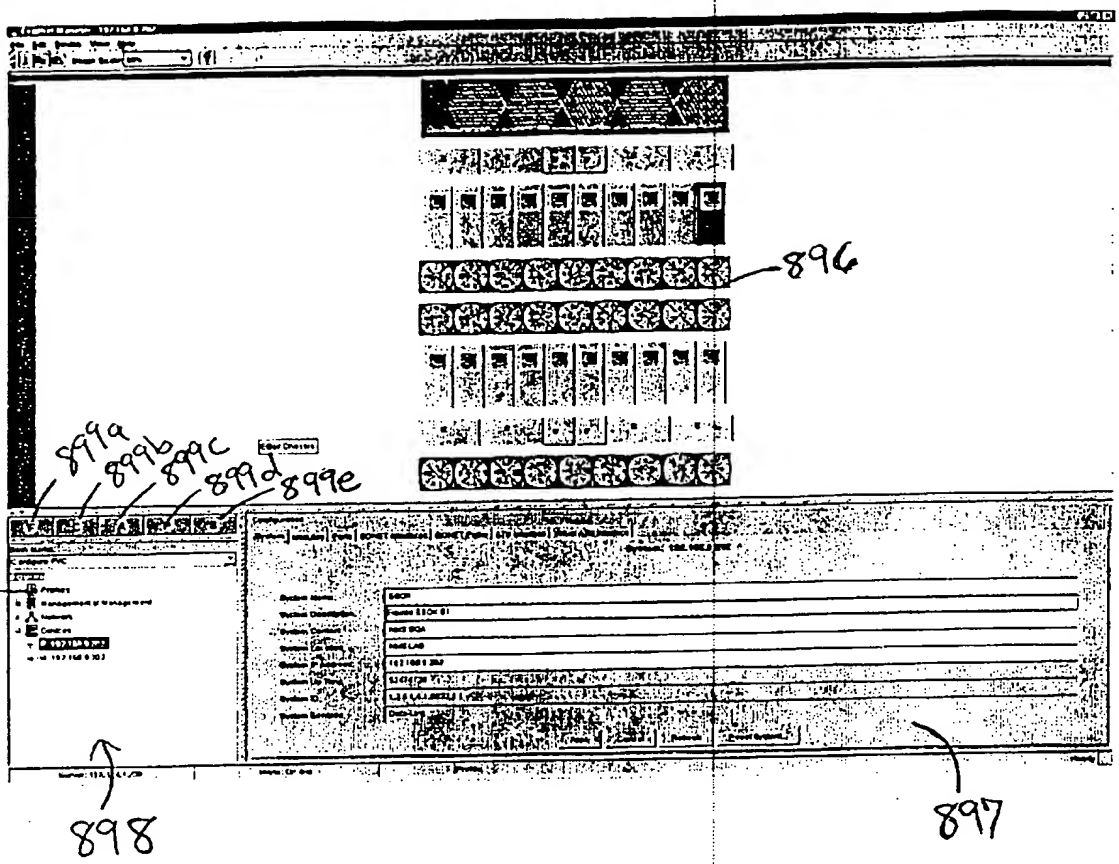


Fig. 7a

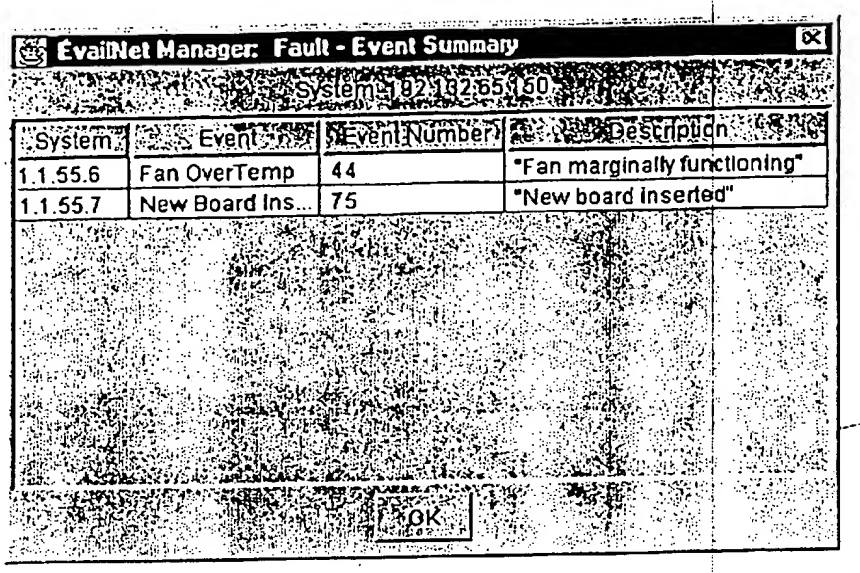

EvailNet Manager: Fault - Event Summary
System 192.162.65.150
System
Event
Event Number
Description
1.1.55.6
Fan OverTemp
44
"Fan marginally functioning"
1.1.55.7
New Board Ins...
75
"New board inserted"
OK

Fig. 7b

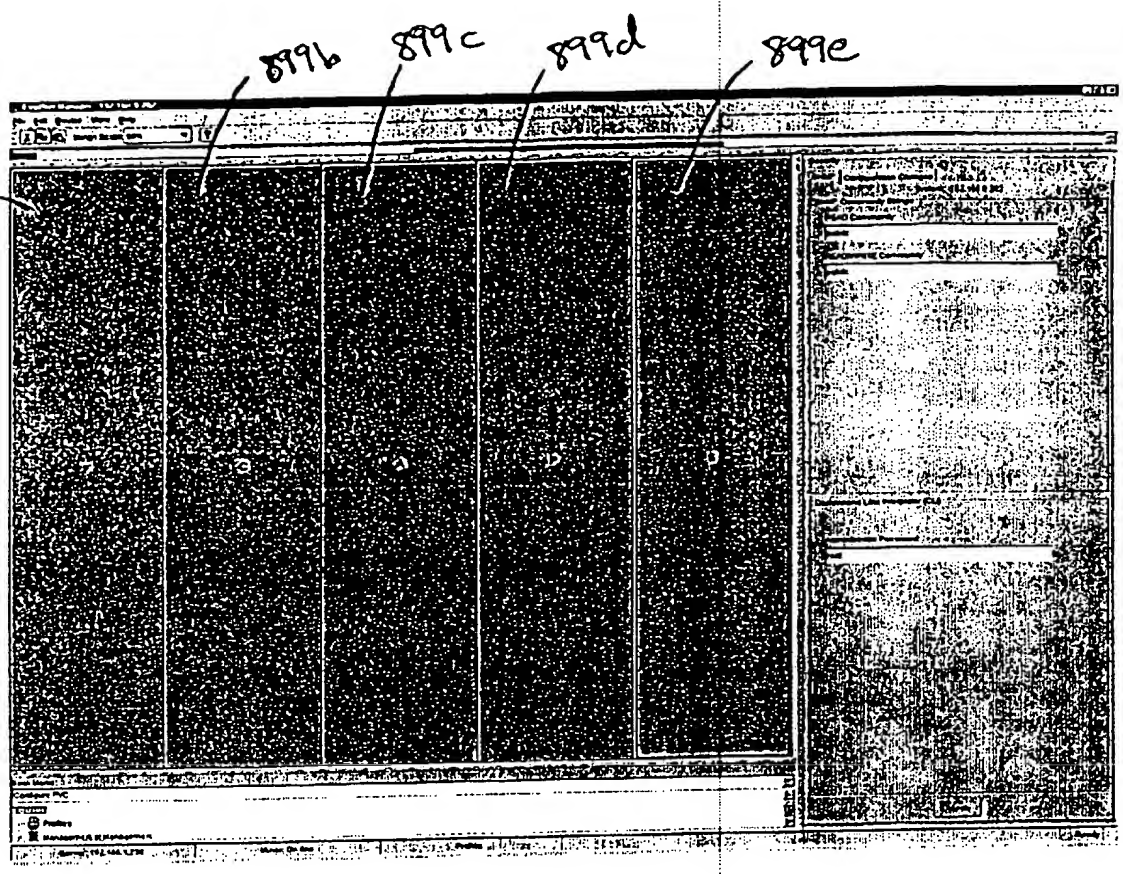


Fig.7c

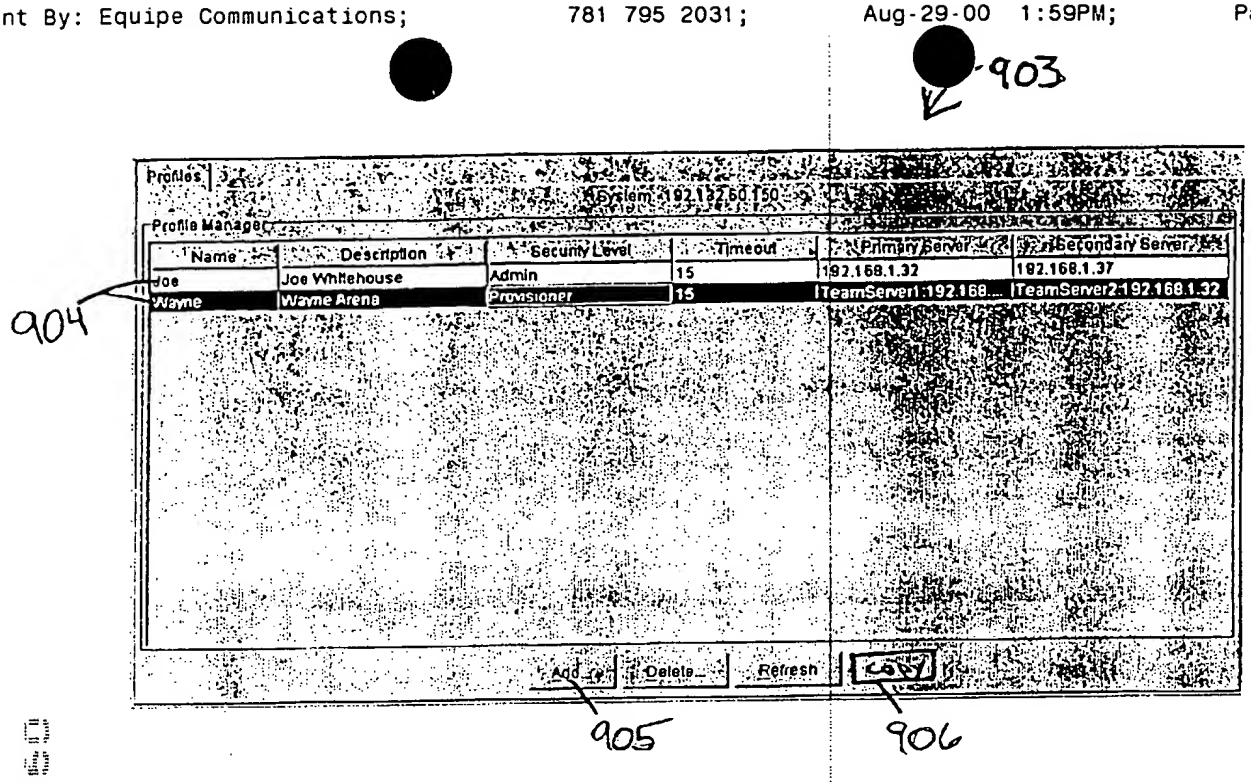

903
Profiles
System 192.192.60.150
Profile Manager
Name
Description
Security Level
Timeout
Primary Server
Secondary Server
Joe
Joe Whitehouse
Admin
15
192.168.1.32
192.168.1.37
Wayne
Wayne Arena
Provisioner
15
TeamServer1:192.168....
TeamServer2:192.168.1.32
904
Add...
Delete...
Refresh
Copy
905
906

Fig. 7d

Fig. 7e

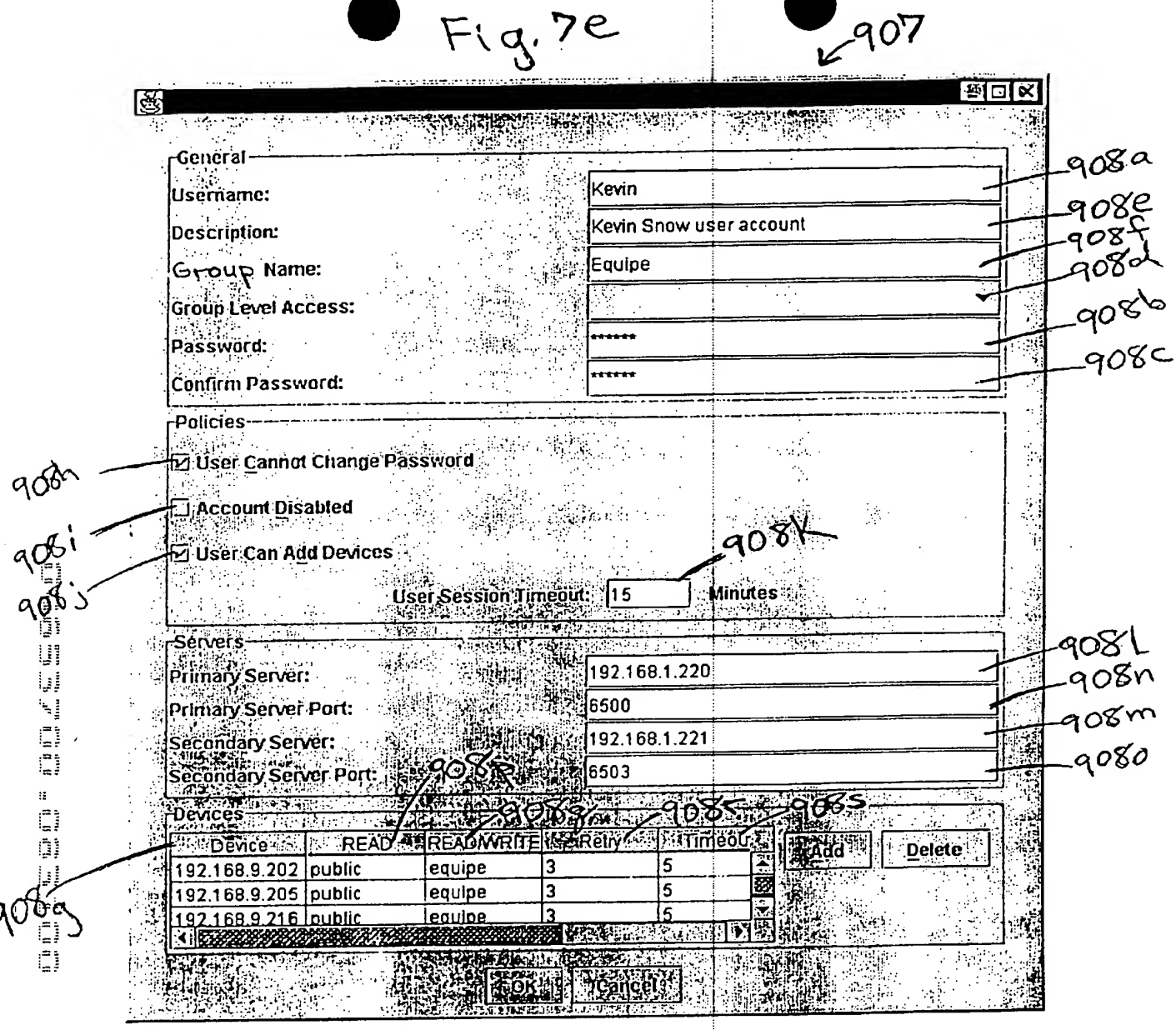
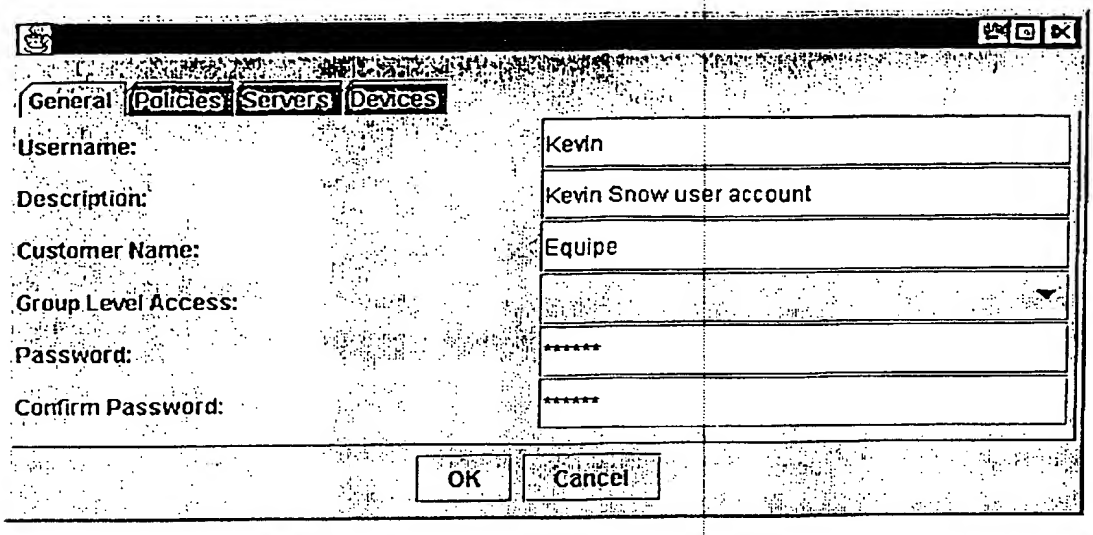

907
General
Username:
Kevin
908a
Description:
Kevin Snow user account
908e
Group Name:
Equipe
908f
Group Level Access:
908d
Password:
******
908b
Confirm Password:
******
908c
Policies
User Cannot Change Password
908h
Account Disabled
908i
User Can Add Devices
908j
User Session Timeout:
15
Minutes
908k
Servers
Primary Server:
192.168.1.220
908l
Primary Server Port:
6500
908n
Secondary Server:
192.168.1.221
908m
Secondary Server Port:
6503
908o
Devices
Device
READ
READ/WRITE
Retry
Timeout
192.168.9.202
public
equipe
3
5
192.168.9.205
public
equipe
3
5
192.168.9.216
public
equipe
3
5
Add
Delete
OK
Cancel
908g

Fig. 7f


General
Policies
Servers
Devices
Username:
Kevin
Description:
Kevin Snow user account
Customer Name:
Equipe
Group Level Access:
Password:
******
Confirm Password:
******
OK
Cancel

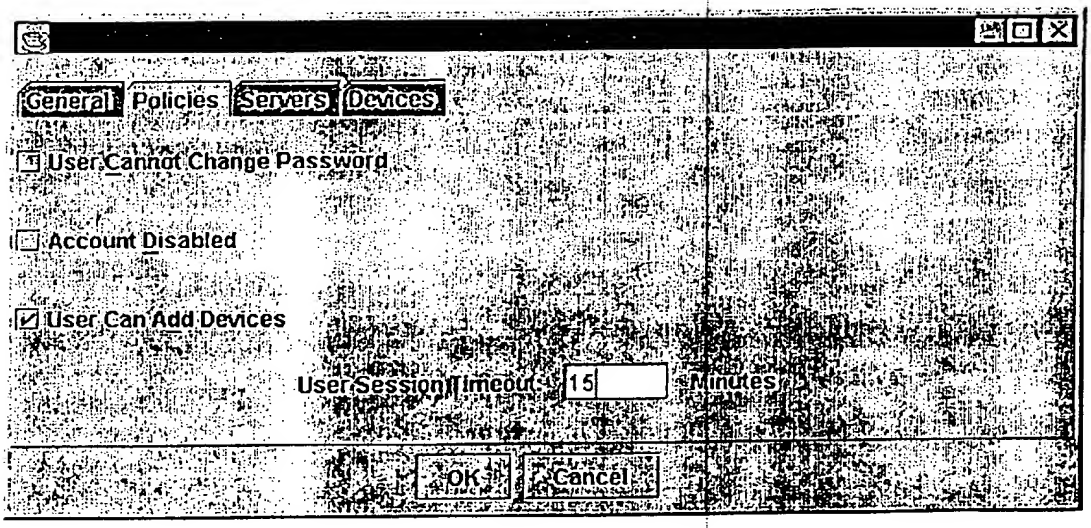
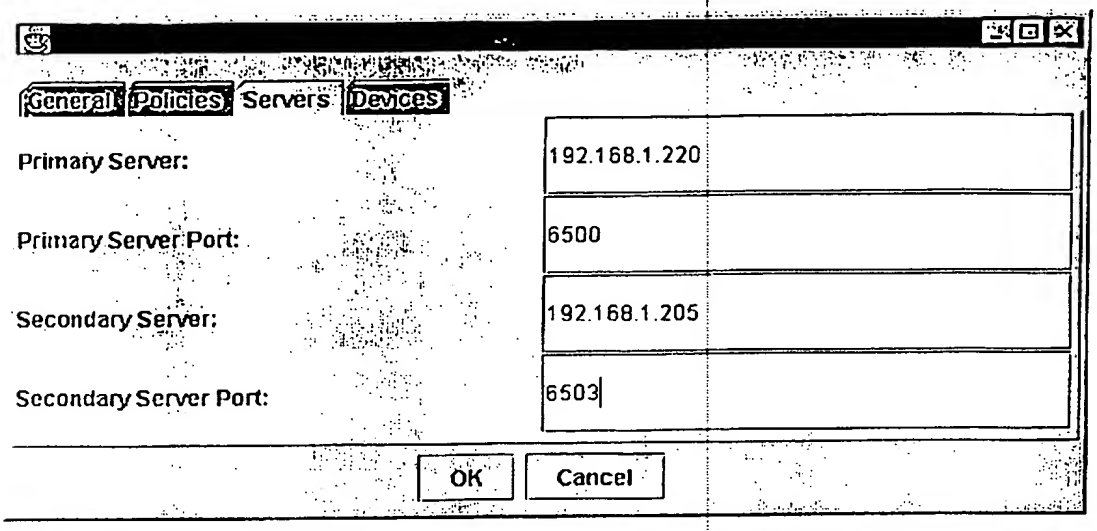

General
Policies
Servers
Devices
User Cannot Change Password
Account Disabled
User Can Add Devices
User Session Timeout
15
Minutes
OK
Cancel

Fig. 7g

Fig. 7h


General
Policies
Servers
Devices
Primary Server:
192.168.1.220
Primary Server Port:
6500
Secondary Server:
192.168.1.205
Secondary Server Port:
6503
OK
Cancel

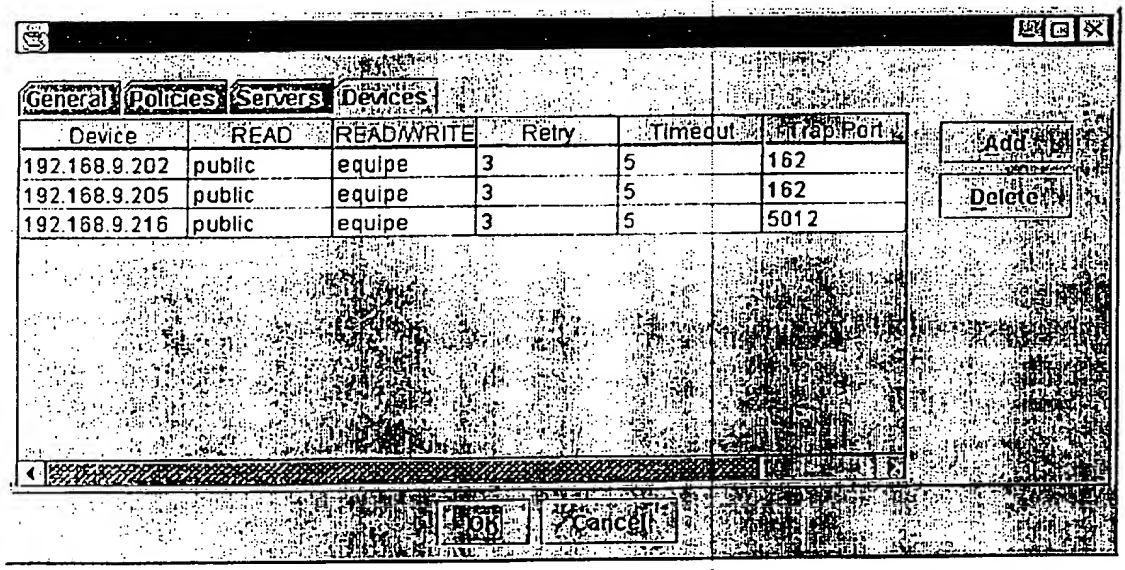

General
Policies
Servers
Devices
Device
READ
READ/WRITE
Retry
Timeout
Trap Port
192.168.9.202
public
equipe
3
5
162
192.168.9.205
public
equipe
3
5
162
192.168.9.216
public
equipe
3
5
5012
Add
Delete
OK
Cancel

Fig. 7i

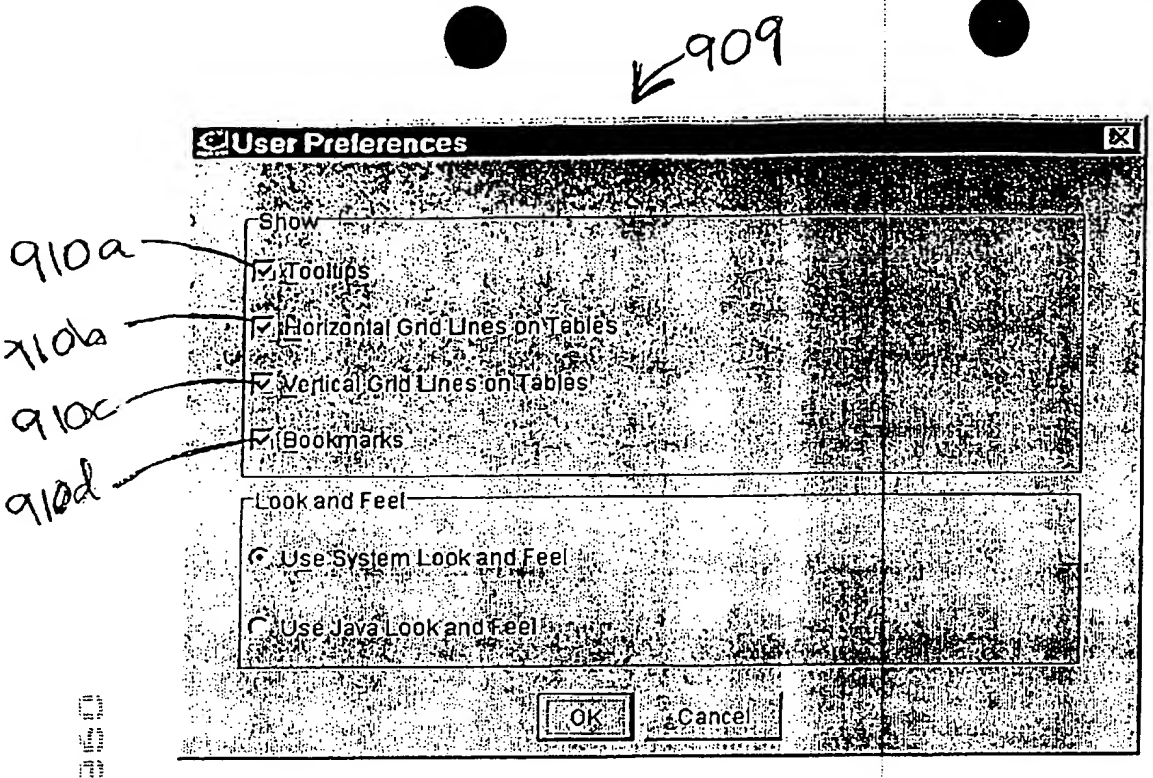
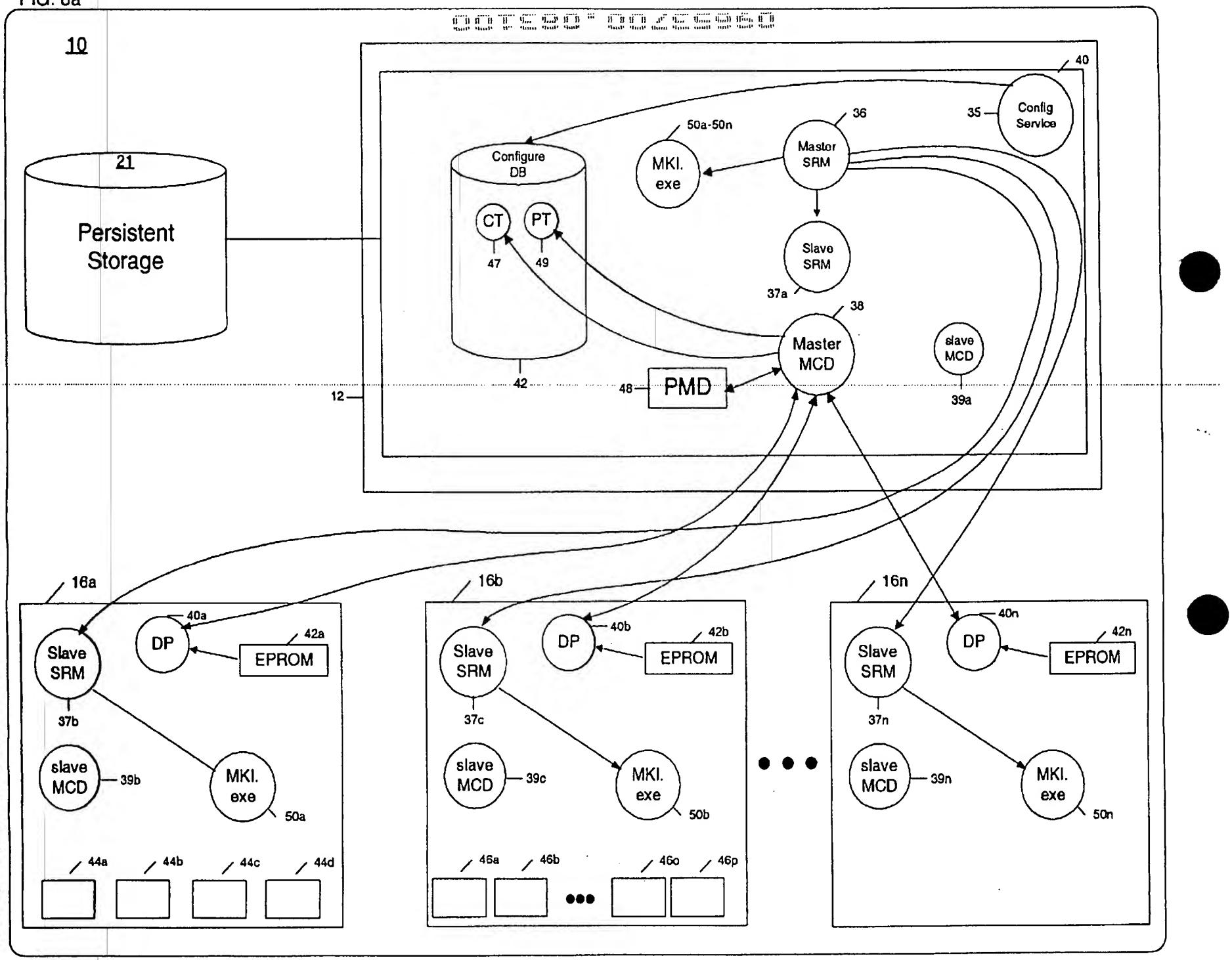

909
User Preferences
Show
ToolTips
Horizontal Grid Lines on Tables
Vertical Grid Lines on Tables
Bookmarks
Look and Feel
Use System Look and Feel
Use Java Look and Feel
OK
Cancel
910a
910b
910c
910d

Fig. 7j

FIG. 8a



CARD TABLE

47

	PID	CWD TYPE	VERSION NO.	SLOT NO.	•••
16 a	500	0XF002	3	1	
16 b	501	0XF002	4	2	
	⋮	⋮	⋮	⋮	⋮
16e	505	0X6002	1	5	
	⋮	⋮	⋮	⋮	⋮
16 n	513	0XF002	1	12	
	⋮	⋮	⋮	⋮	⋮

FIG. 8b

PORT TABLE

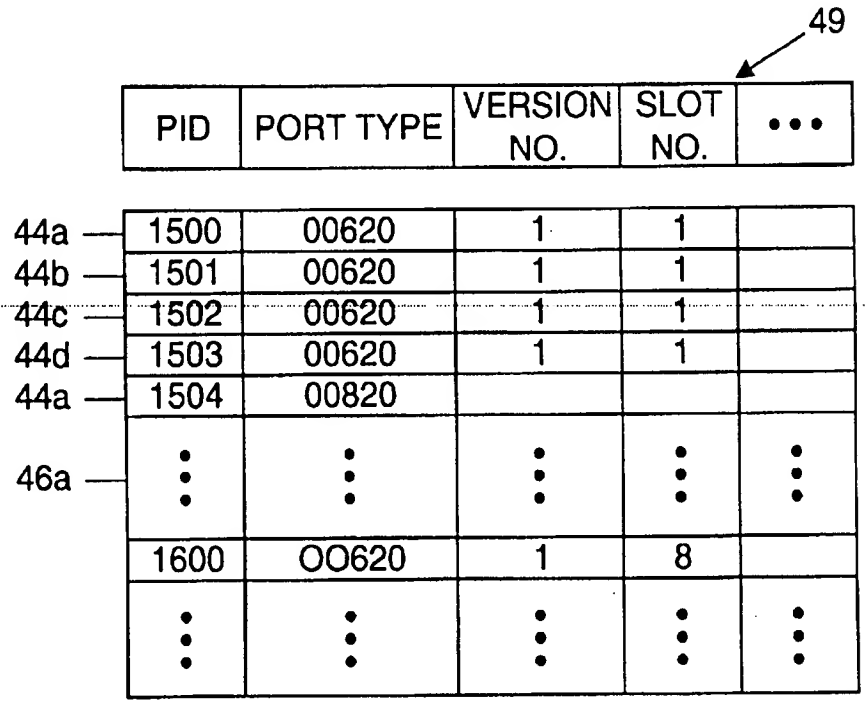


FIG. 8c

FIG. 9a

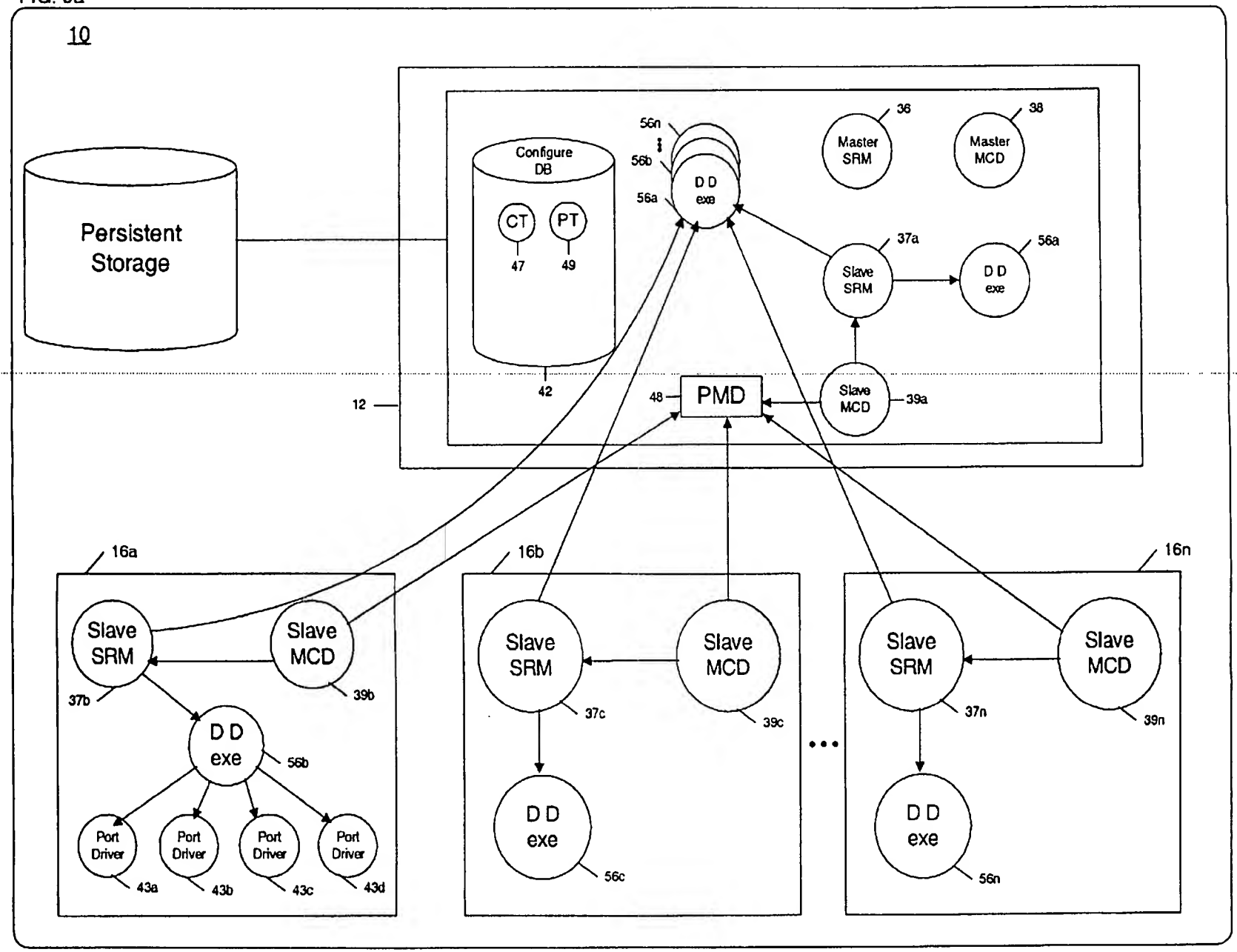

10
Persistent Storage
Configure DB
CT
PT
47
49
42
12
56n
56b
56a
DD exe
Master SRM
36
Master MCD
38
Slave SRM
37a
DD exe
56a
Slave MCD
39a
48
PMD
16a
Slave SRM
37b
Slave MCD
39b
DD exe
56b
Port Driver
43a
Port Driver
43b
Port Driver
43c
Port Driver
43d
16b
Slave SRM
37c
Slave MCD
39c
DD exe
56c
16n
Slave SRM
37n
Slave MCD
39n
DD exe
56n

FIG. 9b

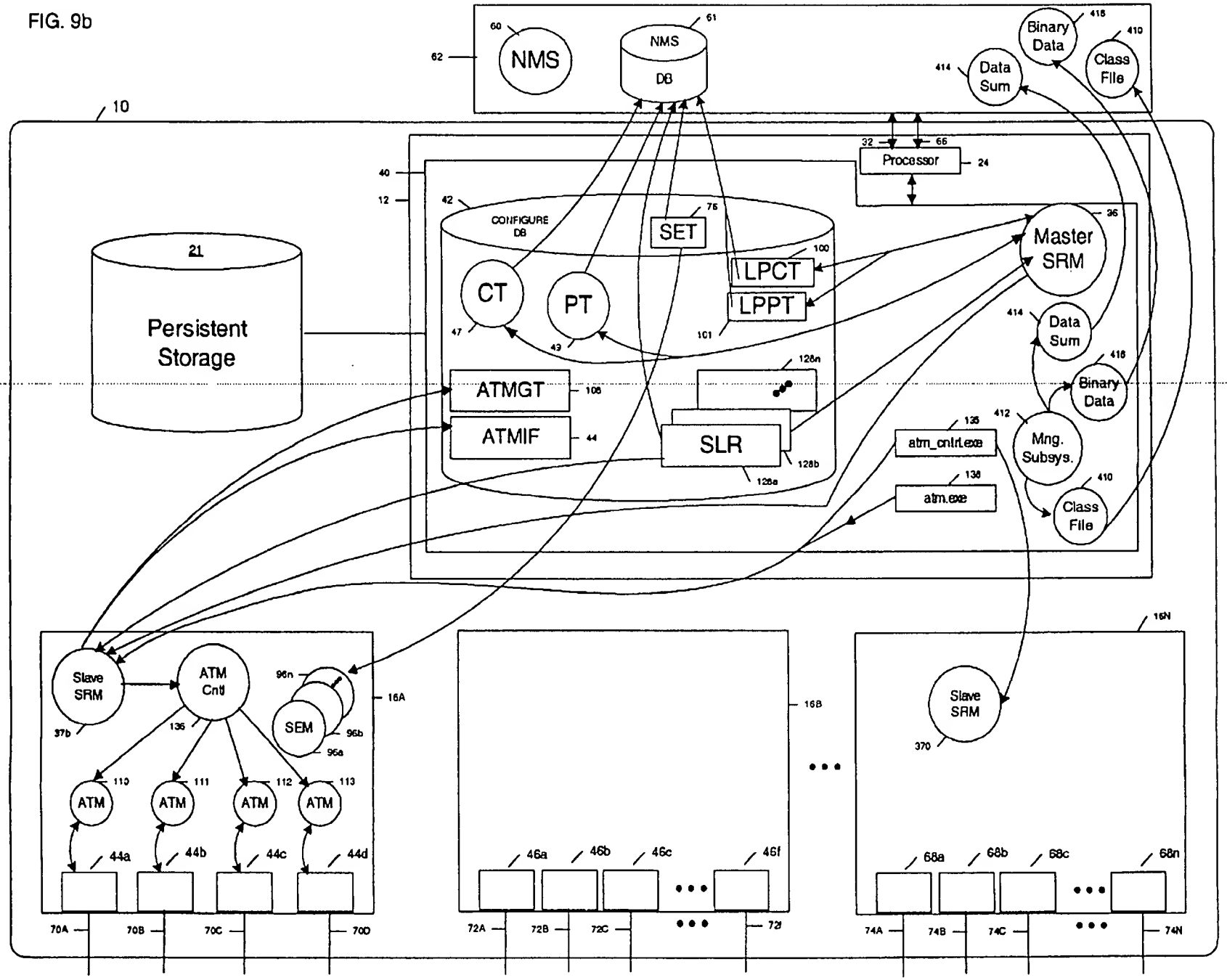

NMS
NMS DB
Binary Data
Class File
Data Sum
Processor
CONFIGURE DB
SET
CT
PT
LPCT
LPPT
Master SRM
Persistent Storage
ATMGT
ATMIF
SLR
atm_cntl.exe
atm.exe
Mng. Subsys.
Slave SRM
ATM Cntl
SEM
ATM

Fig. 9c

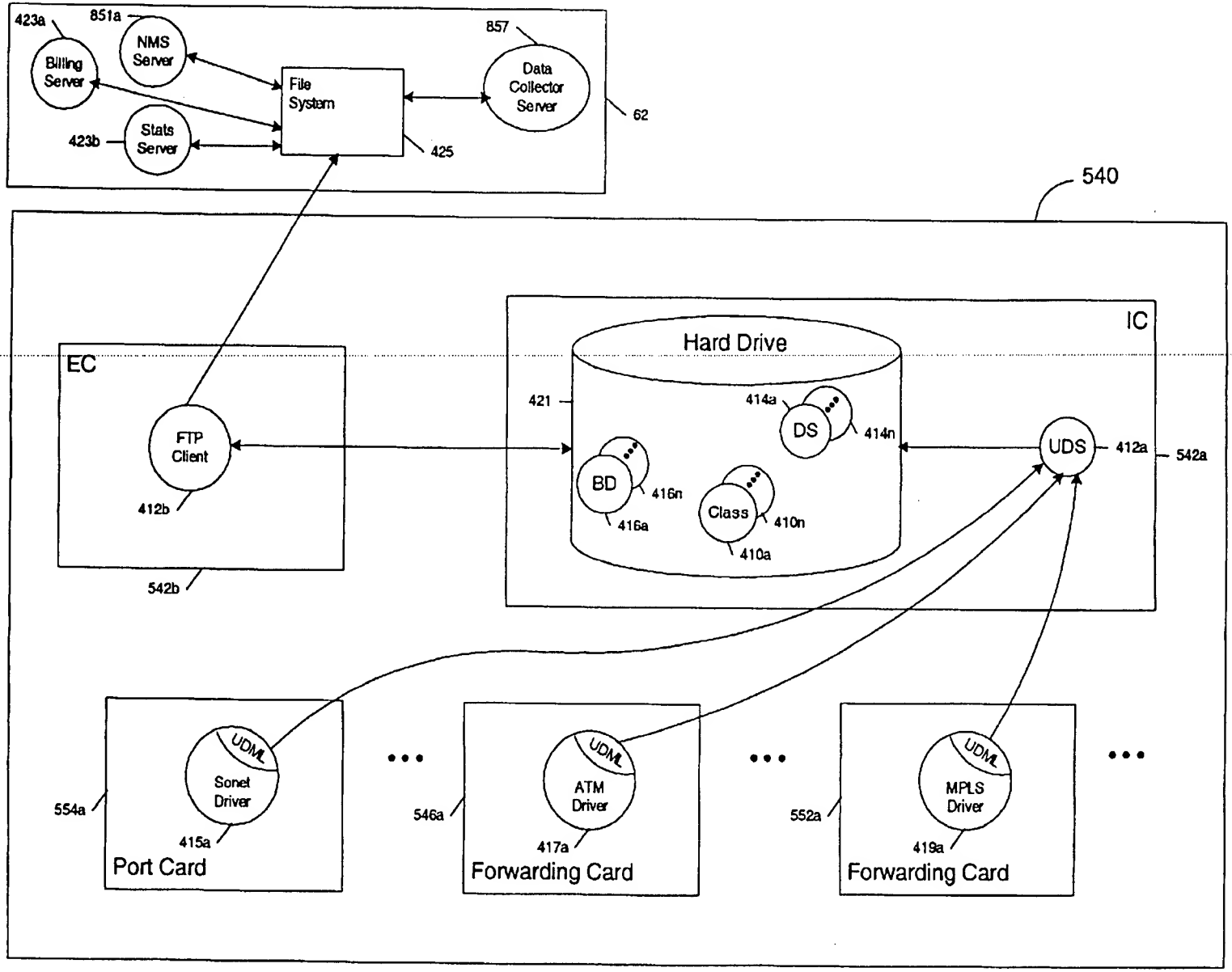


FIG. 10

Service Endpoint Table 76

	Service Endpoint #	Port PID
78	1	1500
80	2	1501
82	3	1501
84	4	1501
86	5	1502
88	6	1502
90	7	1503
92	8	1503
94	9	1503
168	10	1502
	⋮	⋮

FIG. 11a

Logical to Physical Card Table 100

	LID (98)	Primary PID (102)	Back-up PID (104)
106	30	500	513
109	31	501	513
	⋮	⋮	⋮

FIG. 11b

Logical to Physical Port Table 101

	LID (98)	Primary PID (102)	Back-up PID (104)
107	40	1500	1600
	⋮	⋮	⋮

FIG. 12

ATM Group Table 108

Group #	Card LID	...
1	30	
2	30	
3	30	
4	30	

FIG. 13

ATM Interface Table 114

ATM IF	ATM Group	SE	...
1	1	1	
2	1	1	
3	1	1	
4	2	2	
5	2	3	
6	2	4	
⋮	⋮	⋮	⋮
12	3	10	
⋮	⋮	⋮	⋮

170

FIG. 14

Software Load Record 128a

Control Shim	LID
atm-cntl.exe	30

130
134
132

FIG. 15

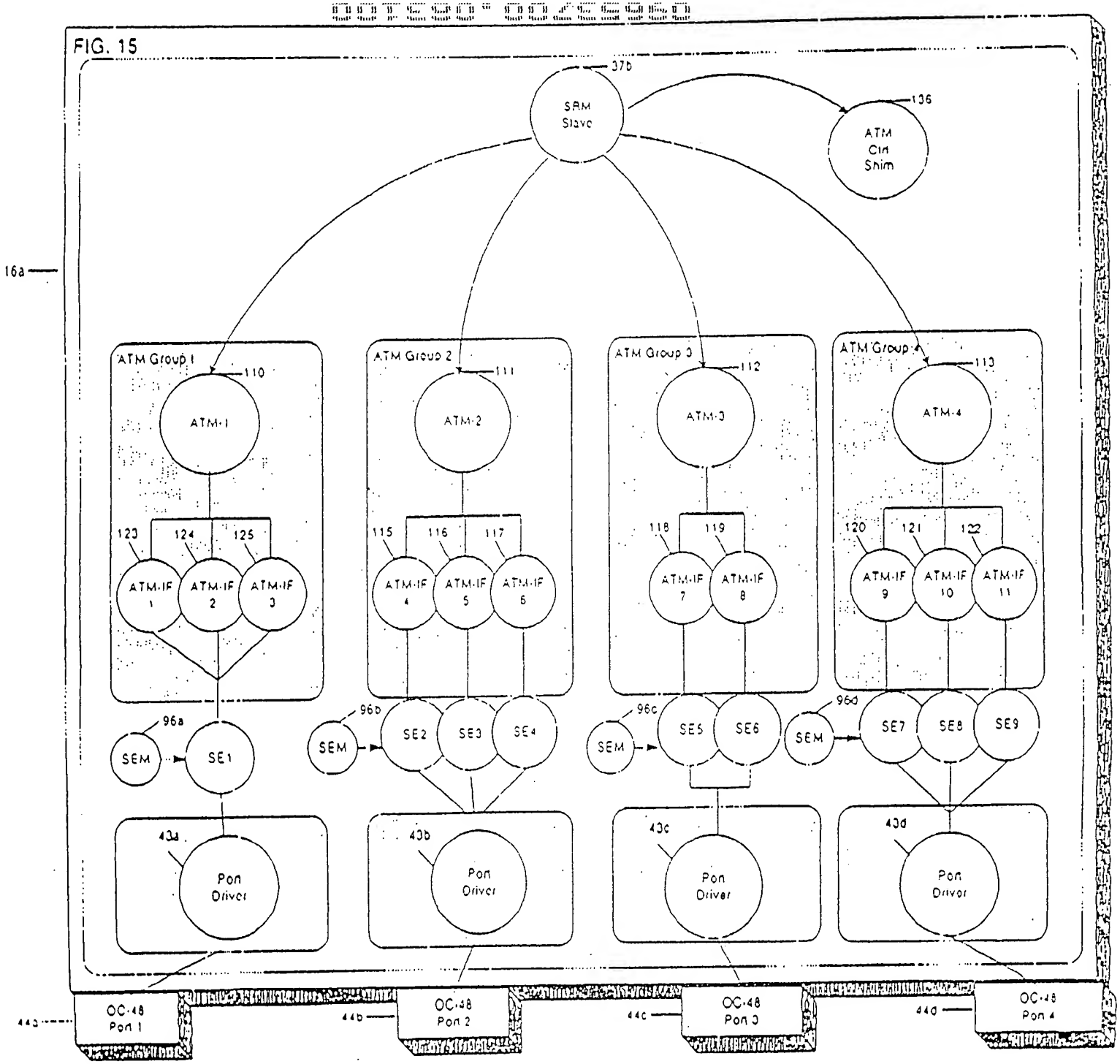

16a
37b
SRM Slave
136
ATM Cln Shim
ATM Group 1
110
ATM-1
123
124
125
ATM-IF 1
ATM-IF 2
ATM-IF 3
96a
SEM
SE1
43a
Pon Driver
ATM Group 2
111
ATM-2
115
116
117
ATM-IF 4
ATM-IF 5
ATM-IF 6
96b
SEM
SE2
SE3
SE4
43b
Pon Driver
ATM Group 3
112
ATM-3
118
119
ATM-IF 7
ATM-IF 8
96c
SEM
SE5
SE6
43c
Pon Driver
ATM Group 4
113
ATM-4
120
121
122
ATM-IF 9
ATM-IF 10
ATM-IF 11
96d
SEM
SE7
SE8
SE9
43d
Pon Driver
44a
OC-48 Pon 1
44b
OC-48 Pon 2
44c
OC-48 Pon 3
44d
OC-48 Pon 4

FIG. 16a

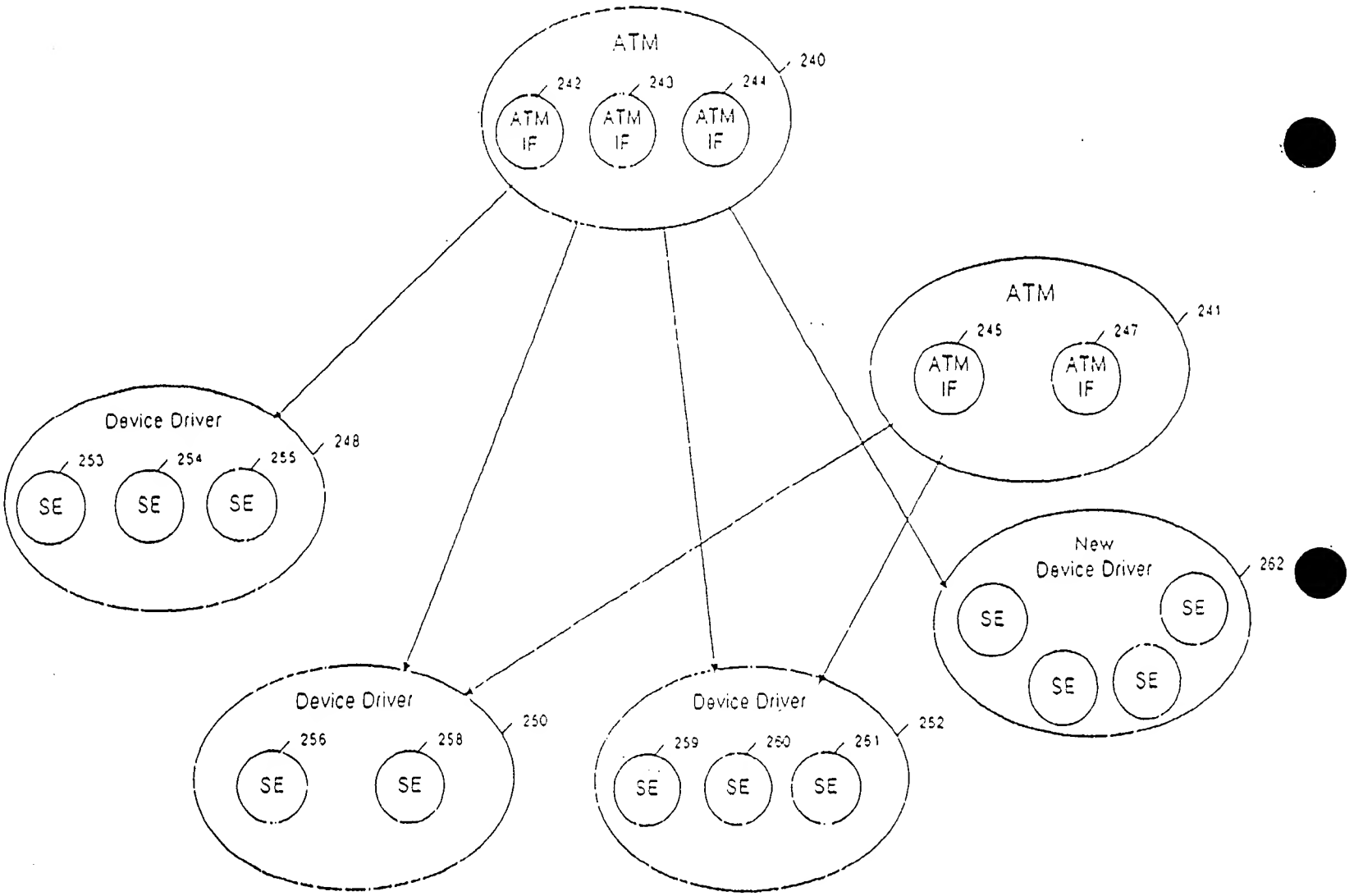

ATM
240
242
243
244
ATM IF
ATM IF
ATM IF
ATM
241
245
247
ATM IF
ATM IF
Device Driver
248
253
254
255
SE
SE
SE
New Device Driver
262
SE
SE
SE
SE
Device Driver
250
256
258
SE
SE
Device Driver
252
259
260
261
SE
SE
SE

FIG. 16b

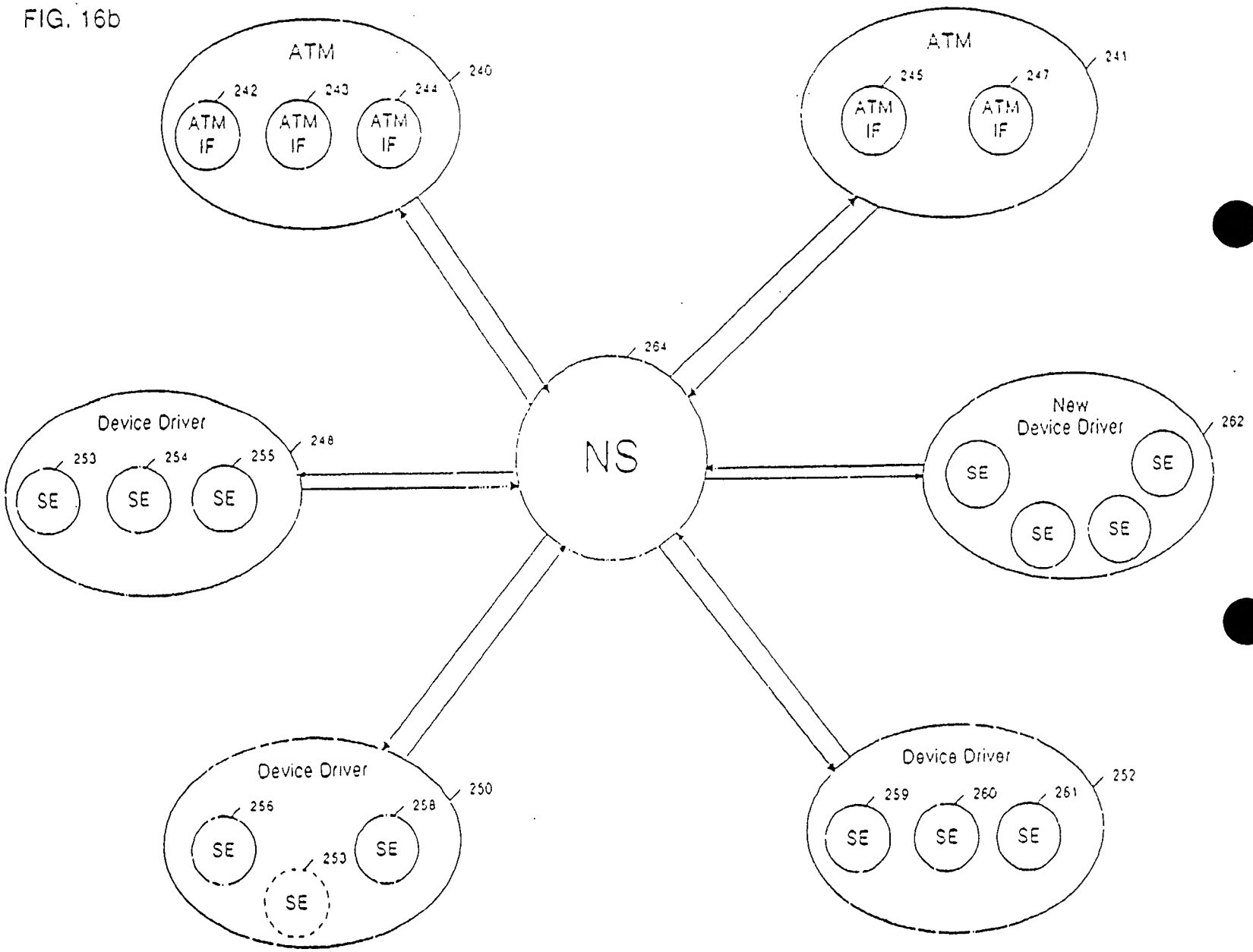

ATM
240
242
243
244
ATM IF
ATM IF
ATM IF
ATM
241
245
247
ATM IF
ATM IF
264
NS
Device Driver
248
253
254
255
SE
SE
SE
New Device Driver
262
SE
SE
SE
SE
Device Driver
250
256
258
253
SE
SE
SE
Device Driver
252
259
260
261
SE
SE
SE

FIG. 16c

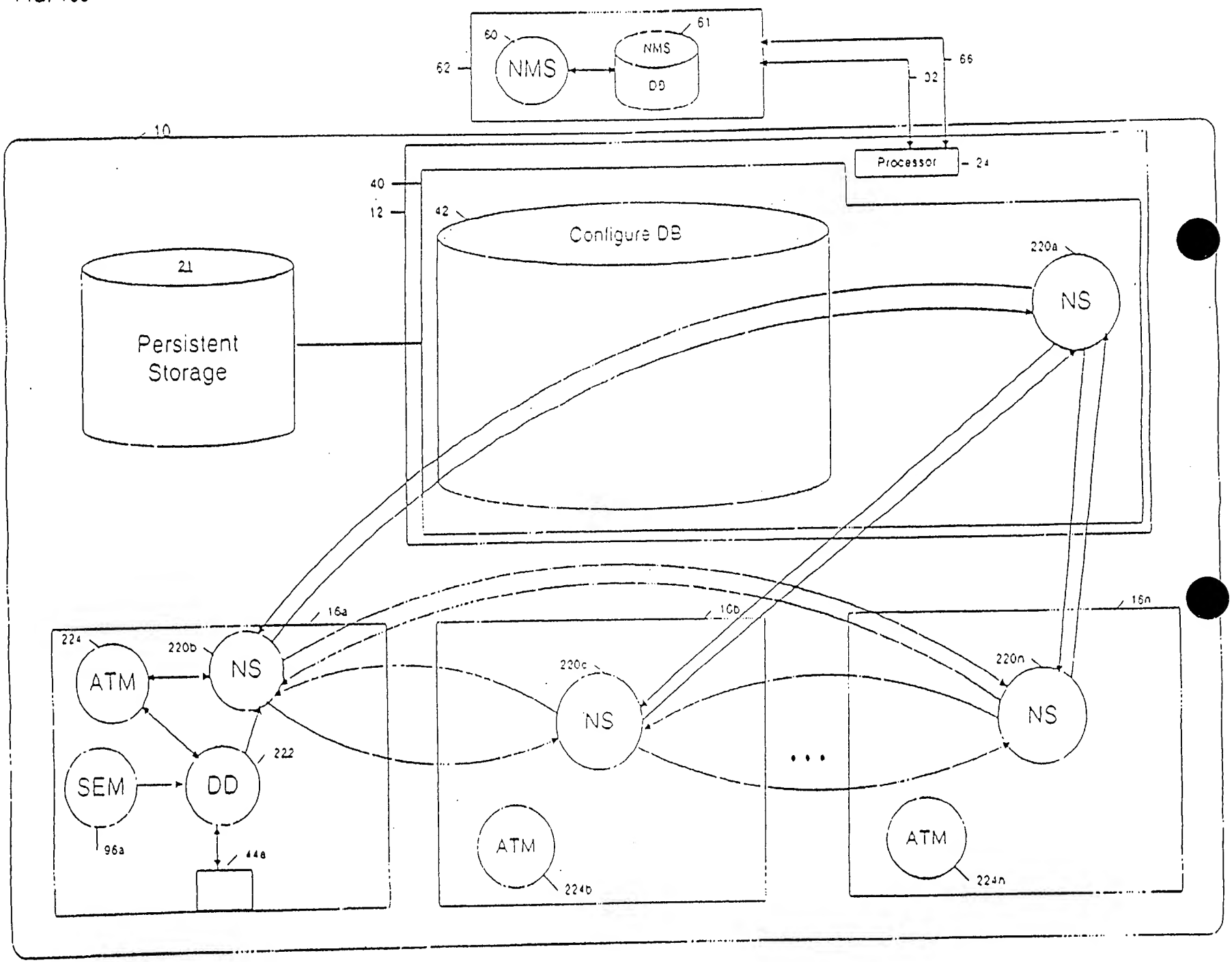

60
NMS
61
NMS
DB
62
66
32
10
Processor
24
40
12
42
Configure DB
21
Persistent Storage
220a
NS
16a
16b
16n
224
220b
ATM
NS
220c
NS
220n
NS
222
SEM
DD
96a
448
ATM
224b
ATM
224n

FIG. 16d

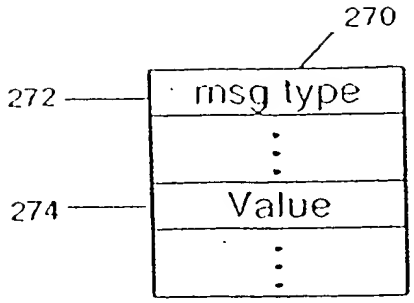


FIG. 17

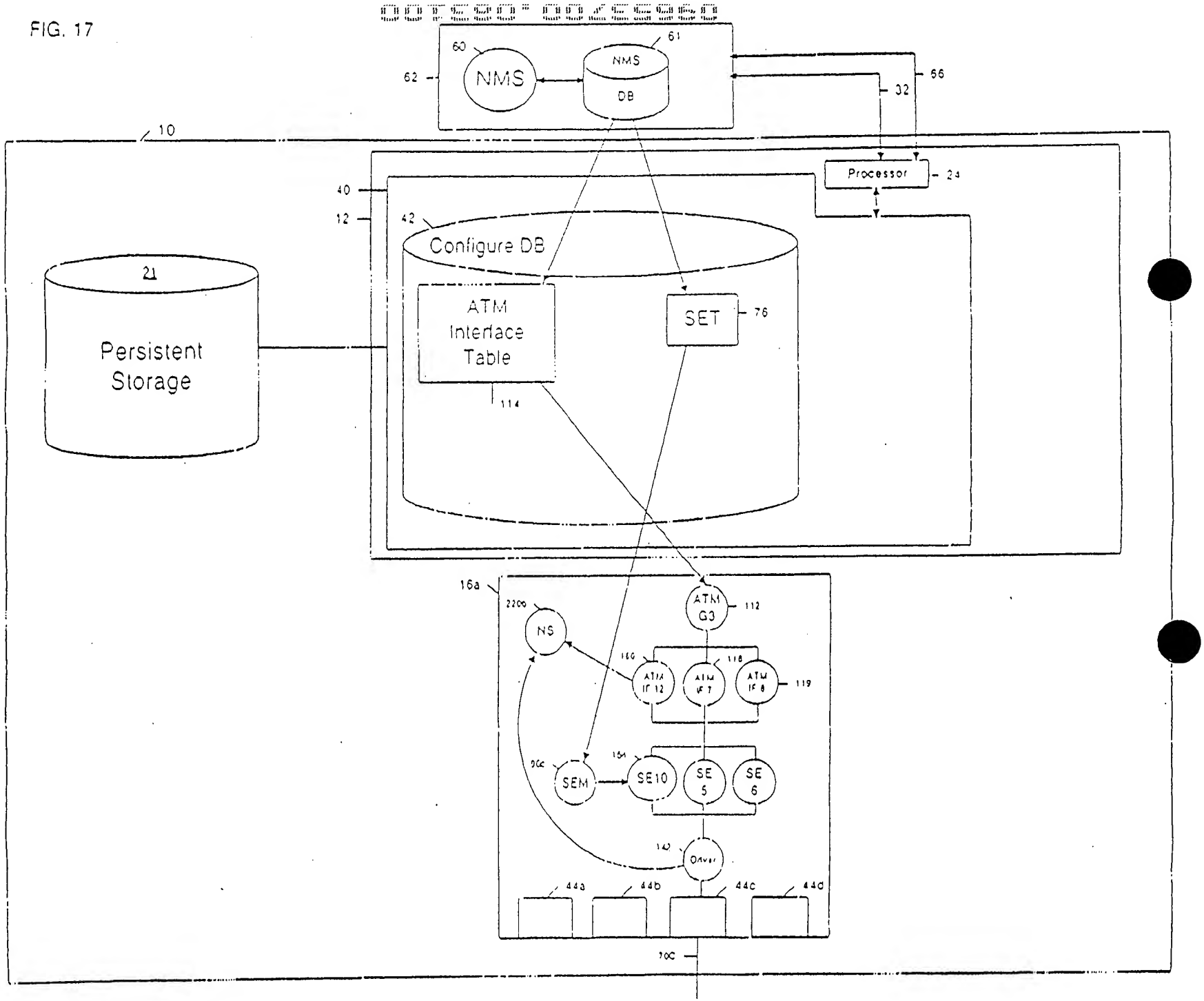

60
NMS
61
NMS
DB
62
66
32
10
Processor
24
40
12
42
Configure DB
21
Persistent Storage
ATM Interface Table
SET
76
114
16a
220c
NS
ATM G3
112
160
118
119
SEM
SE10
SE 5
SE 6
44a
44b
44c
44d
70c

FIG. 18

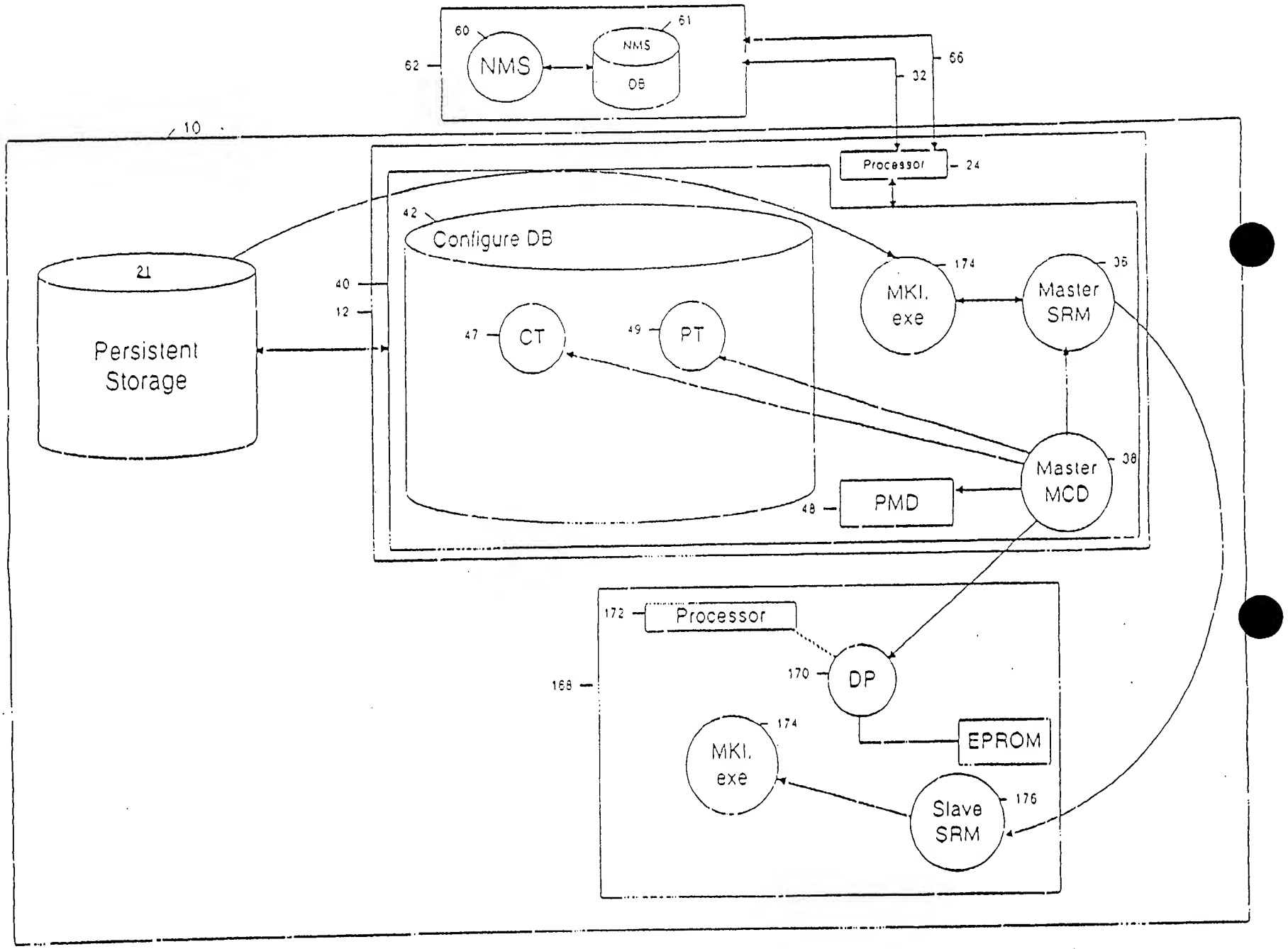

60
NMS
61
NMS
DB
62
66
32
10
Processor
24
42
Configure DB
21
Persistent Storage
40
12
47
CT
49
PT
MKI. exe
174
Master SRM
35
Master MCD
38
48
PMD
172
Processor
168
170
DP
EPROM
MKI. exe
174
Slave SRM
176

FIG. 19

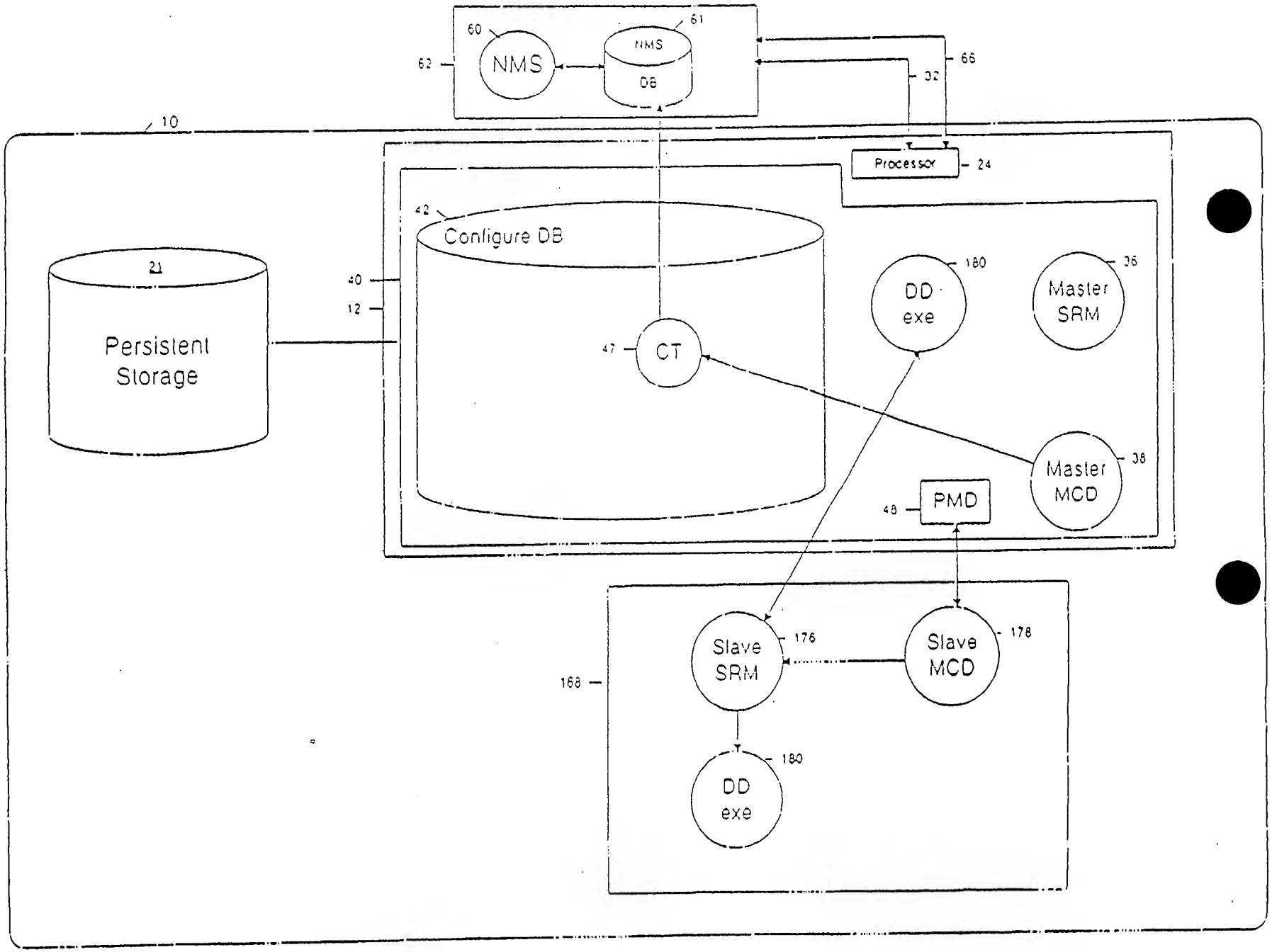

60
61
NMS
NMS
DB
62
66
32
10
Processor
24
42
Configure DB
21
Persistent
Storage
40
12
47
CT
180
DD
exe
36
Master
SRM
38
Master
MCD
48
PMD
168
Slave
SRM
176
Slave
MCD
178
180
DD
exe

FIG. 20

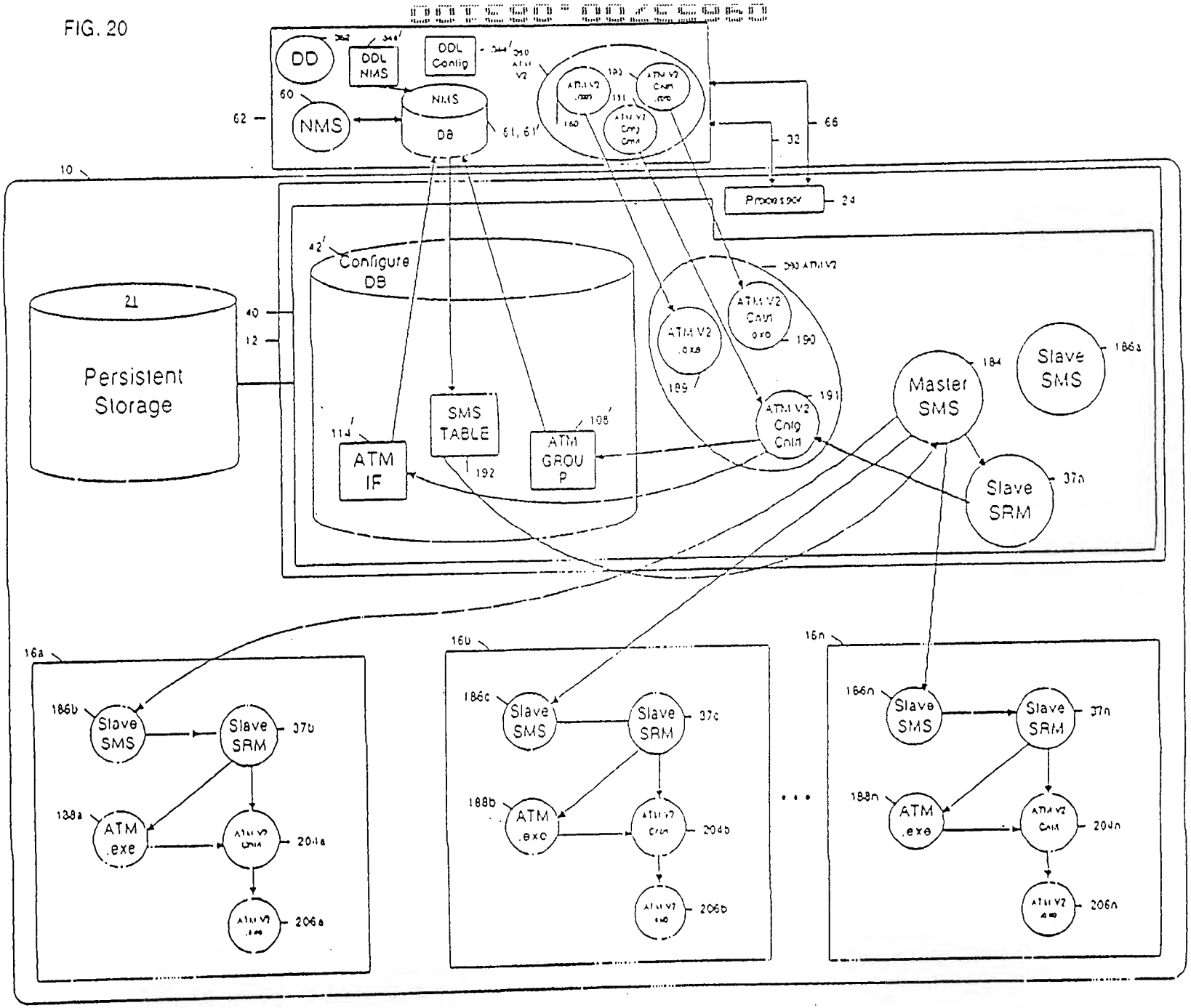

DD
DDL NMS
DDL Config
NMS
DB
60
62
61, 61'
66
32
10
Processor
24
Configure DB
42'
Persistent Storage
21
40
12
ATM V2 .exe
ATM V2 Config .exe
190
189
191
ATM IF
SMS TABLE
192
ATM GROUP
198'
Master SMS
184
Slave SMS
186a
Slave SRM
37a
16a
186b
Slave SMS
Slave SRM
37b
188a
ATM .exe
204a
206a
16b
186c
Slave SMS
Slave SRM
37c
188b
ATM .exe
204b
206b
16n
186n
Slave SMS
Slave SRM
37n
188n
ATM .exe
204n
206n

FIG. 21

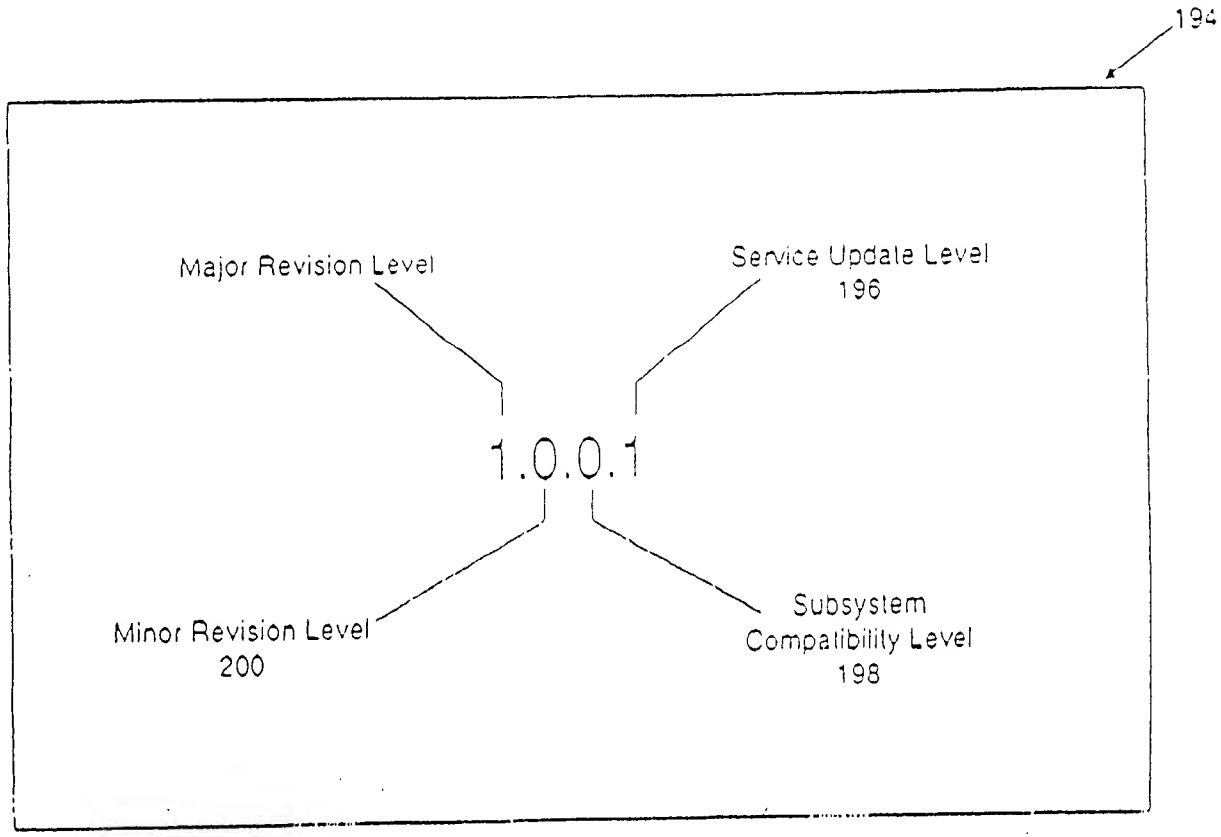

194
Major Revision Level
Service Update Level
196
1.0.0.1
Minor Revision Level
200
Subsystem
Compatibility Level
198

FIG. 22

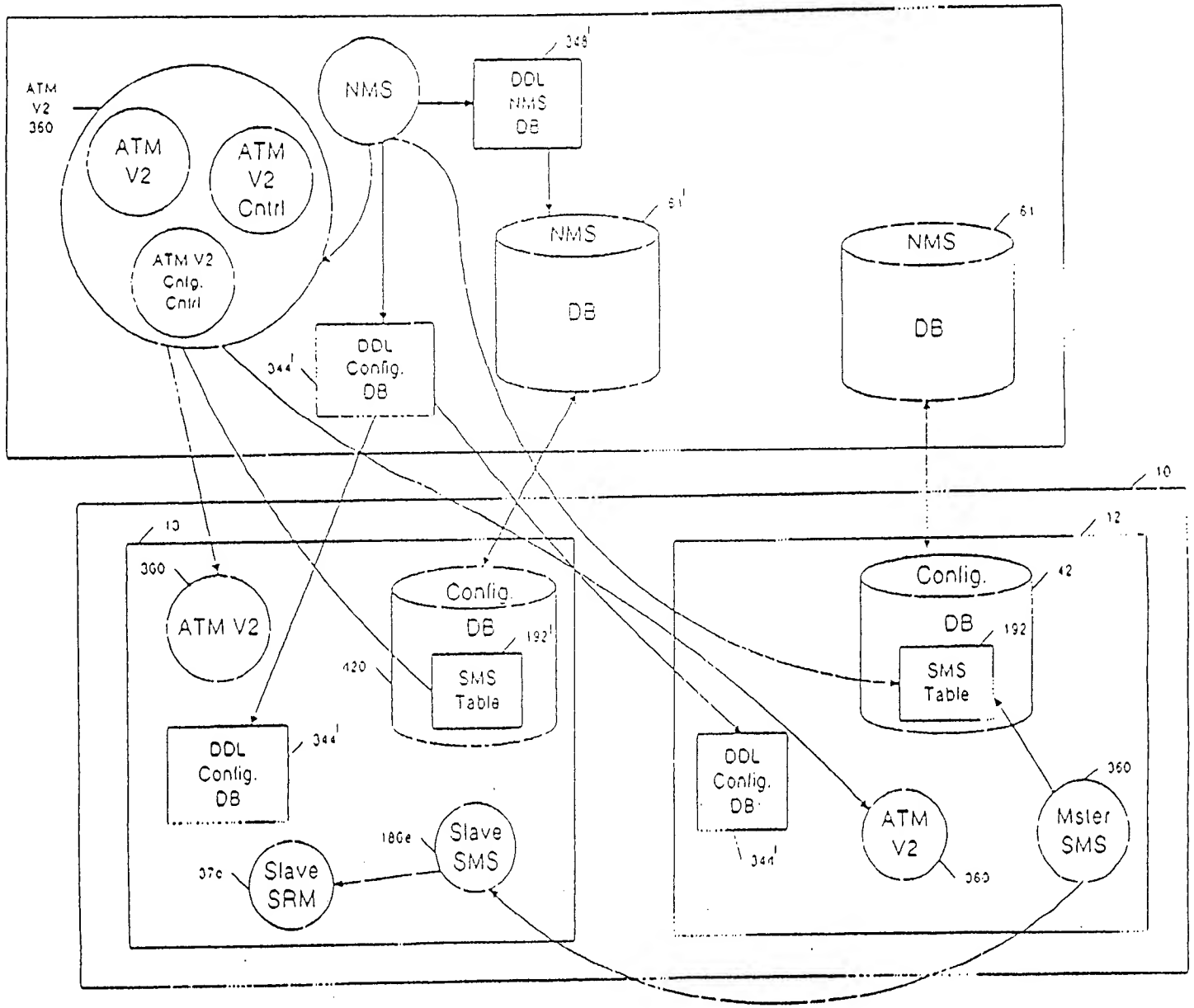

ATM V2 360
ATM V2
ATM V2 Cntrl
ATM V2 Config. Cntrl
NMS
DDL NMS DB
348'
NMS DB
61'
NMS DB
61
DDL Config. DB
344'
10
12
13
360
ATM V2
Config. DB
192'
420
SMS Table
DDL Config. DB
344'
Slave SRM
37e
Slave SMS
180e
Config. DB
192
SMS Table
42
DDL Config. DB
344'
ATM V2
360
Mster SMS
360

FIG. 23

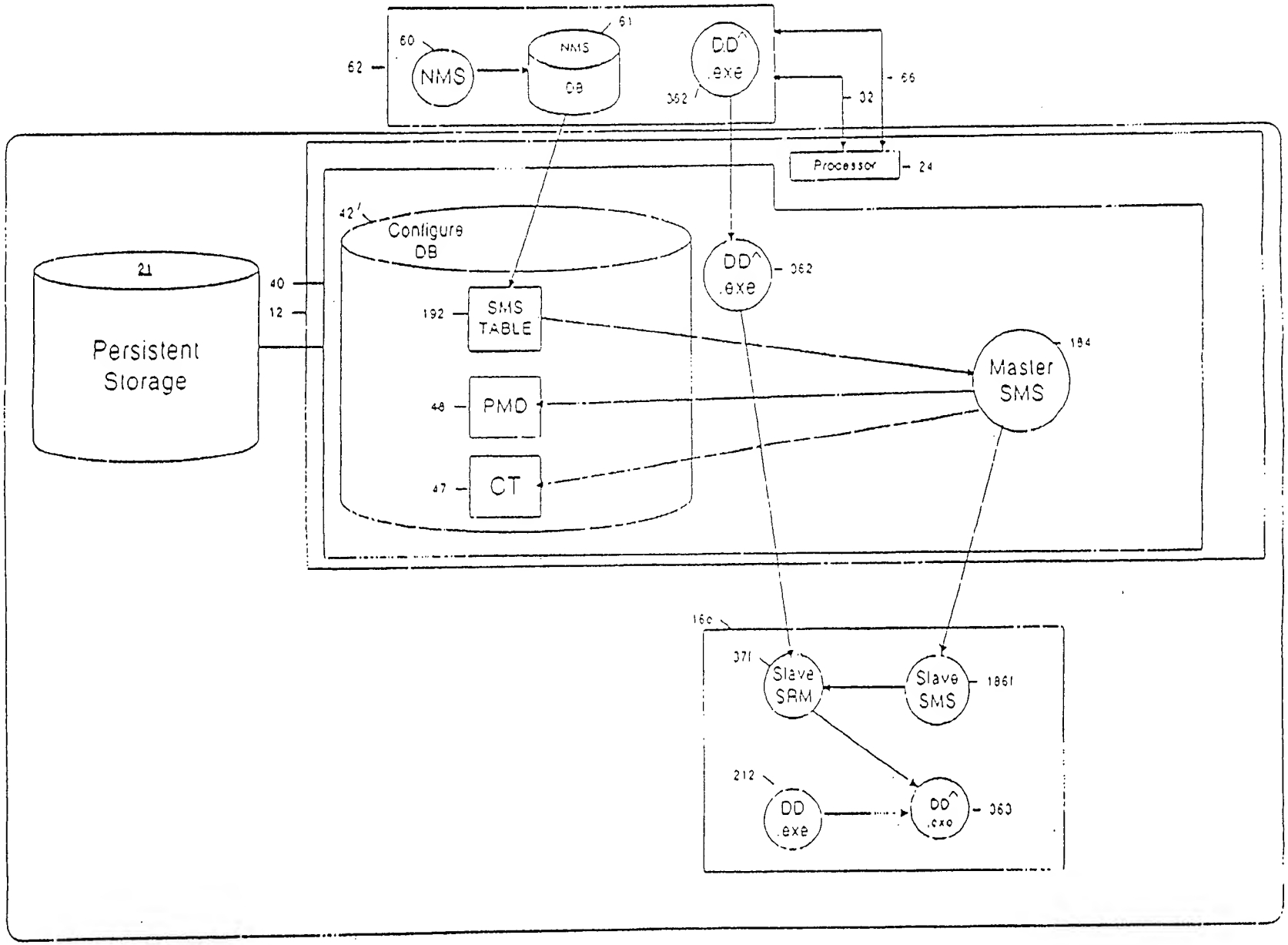

60
61
NMS
62
NMS
DB
DD^
.exe
352
32
66
Processor
24
42'
Configure
DB
21
40
12
Persistent
Storage
DD^
.exe
362
192
SMS
TABLE
Master
SMS
194
48
PMD
47
CT
160
371
Slave
SRM
Slave
SMS
1861
212
DD
.exe
DD^
.exe
363

FIG. 24

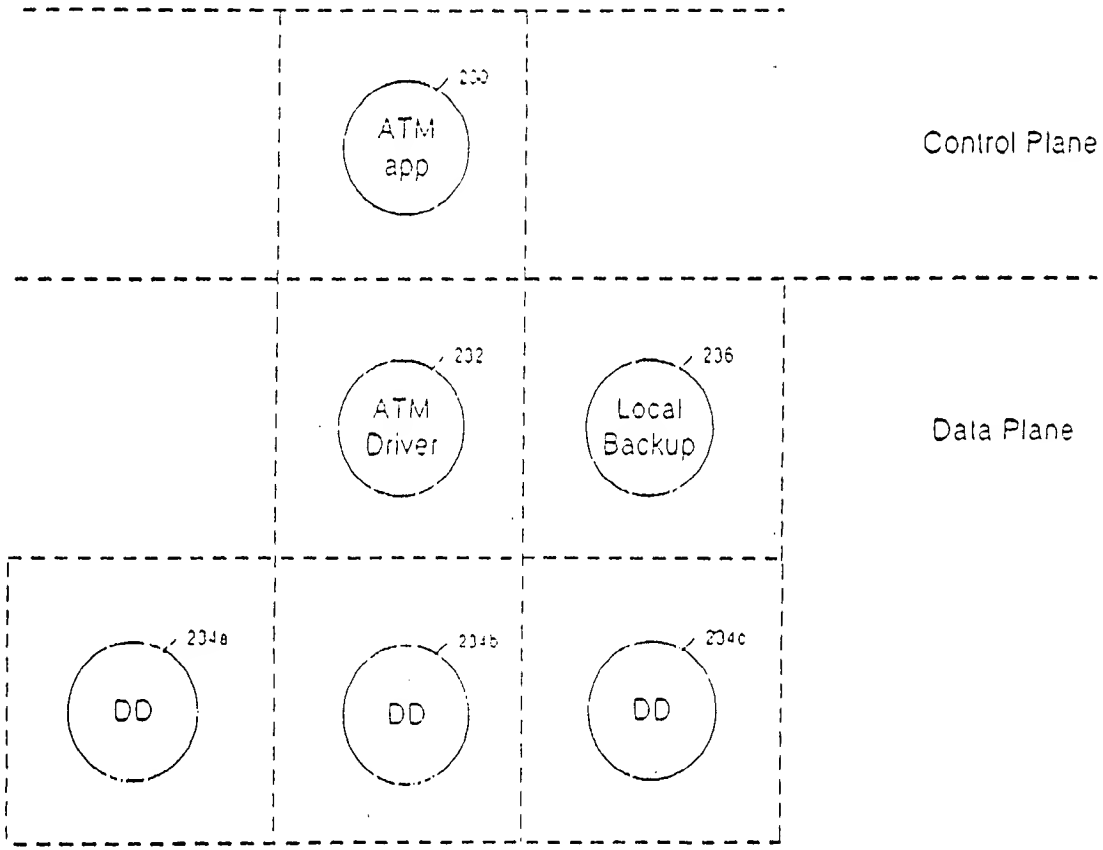

ATM app
Control Plane
ATM Driver
Local Backup
Data Plane
DD
DD
DD

FIG. 25

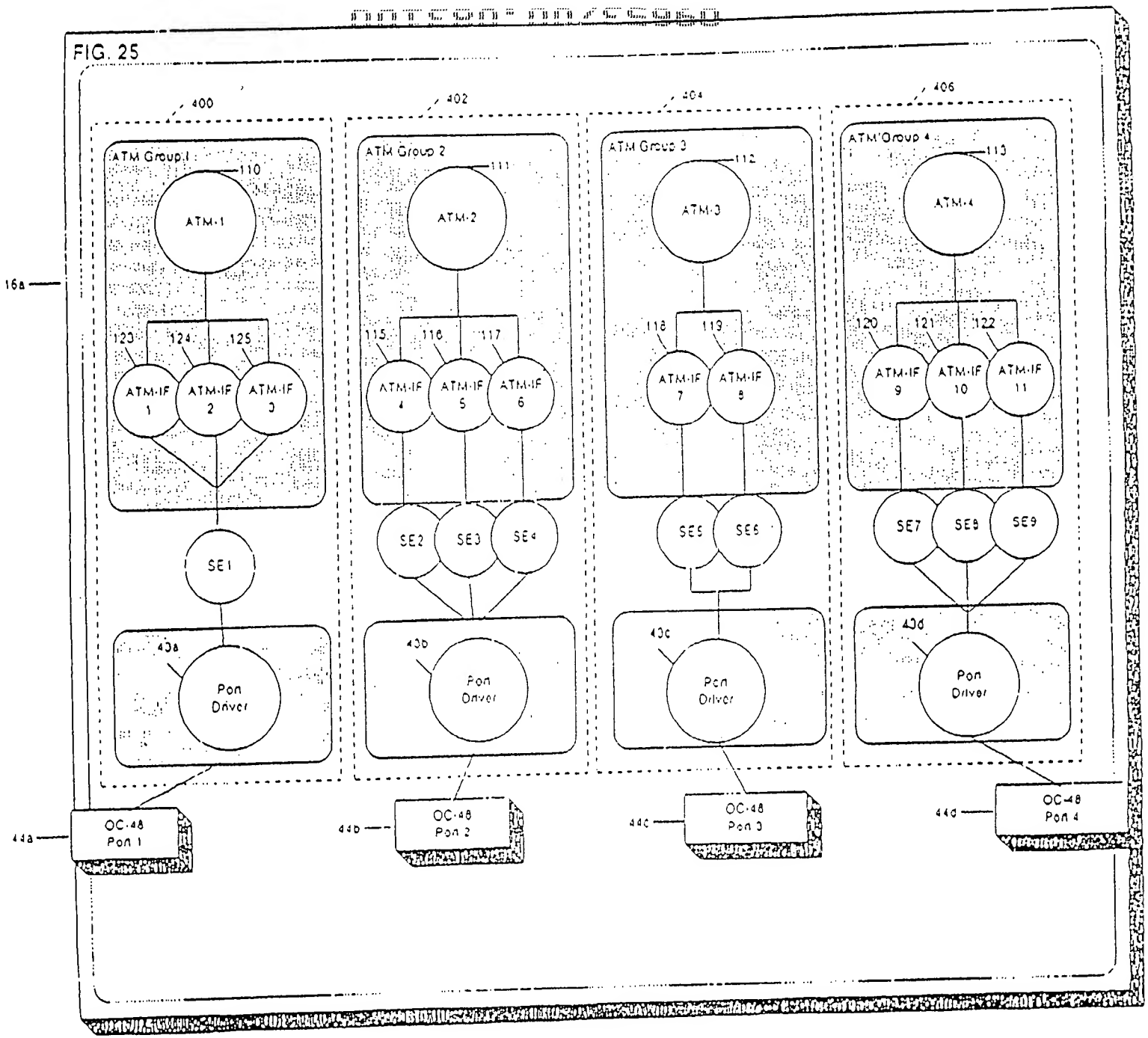

400
402
404
406
ATM Group 1
ATM Group 2
ATM Group 3
ATM Group 4
ATM-1
ATM-2
ATM-3
ATM-4
110
111
112
113
123
124
125
115
116
117
118
119
120
121
122
ATM-IF 1
ATM-IF 2
ATM-IF 3
ATM-IF 4
ATM-IF 5
ATM-IF 6
ATM-IF 7
ATM-IF 8
ATM-IF 9
ATM-IF 10
ATM-IF 11
SE1
SE2
SE3
SE4
SE5
SE6
SE7
SE8
SE9
43a
43b
43c
43d
Pon Driver
16a
44a
OC-48 Pon 1
44b
OC-48 Pon 2
44c
OC-48 Pon 3
44d
OC-48 Pon 4

FIG. 26

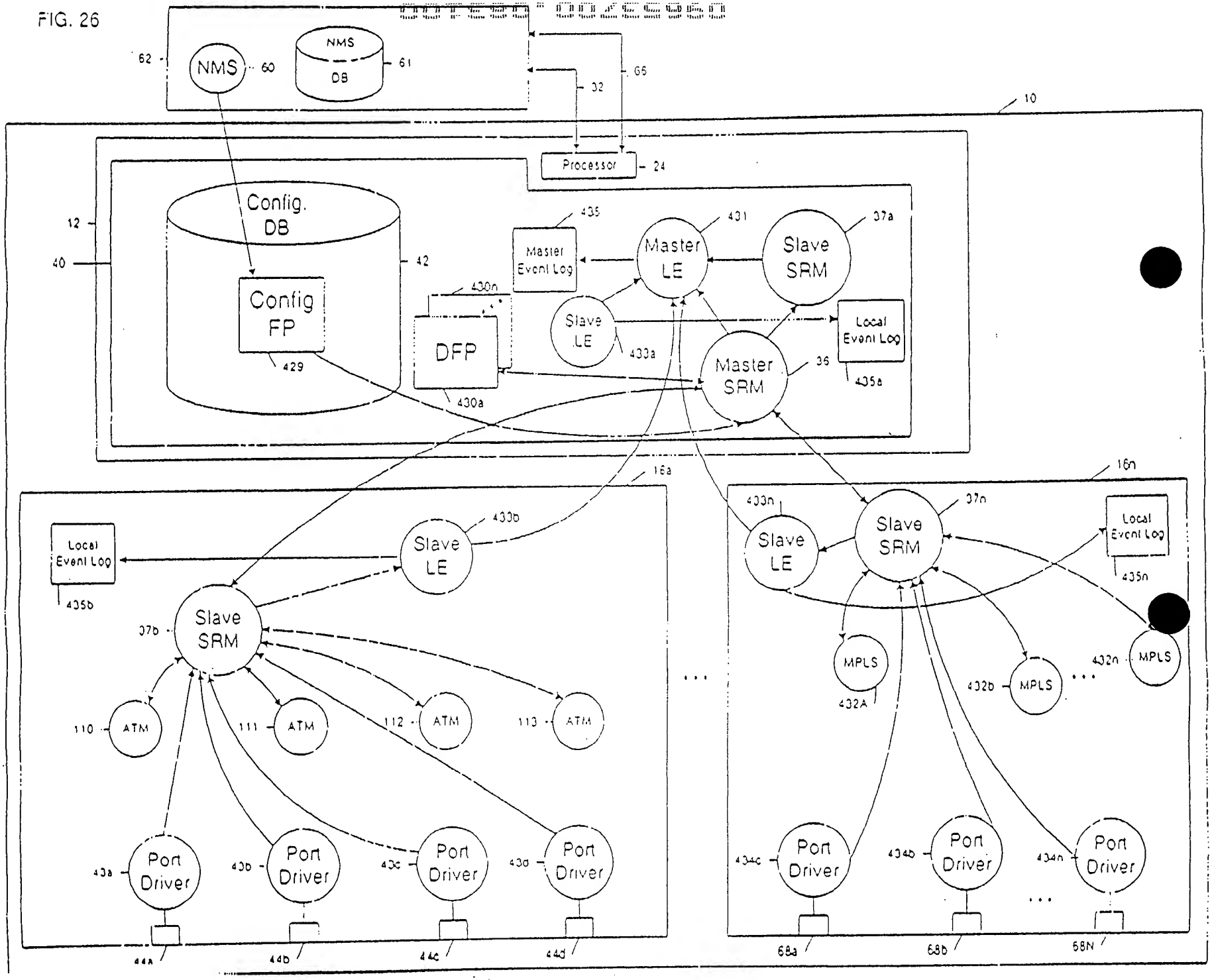

NMS
60
NMS
DB
61
62
32
66
10
Processor
24
12
40
Config.
DB
42
Config
FP
429
DFP
430a
430n
Master
Event Log
435
Master
LE
431
Slave
SRM
37a
Slave
LE
433a
Local
Event Log
435a
Master
SRM
36
16a
Local
Event Log
435b
Slave
LE
433b
Slave
SRM
37b
110
ATM
111
ATM
112
ATM
113
ATM
43a
Port
Driver
43b
Port
Driver
43c
Port
Driver
43d
Port
Driver
44a
44b
44c
44d
16n
433n
Slave
LE
Slave
SRM
37n
Local
Event Log
435n
MPLS
432A
MPLS
432b
MPLS
432n
434c
Port
Driver
434b
Port
Driver
434n
Port
Driver
68a
68b
68N

FIG. 27

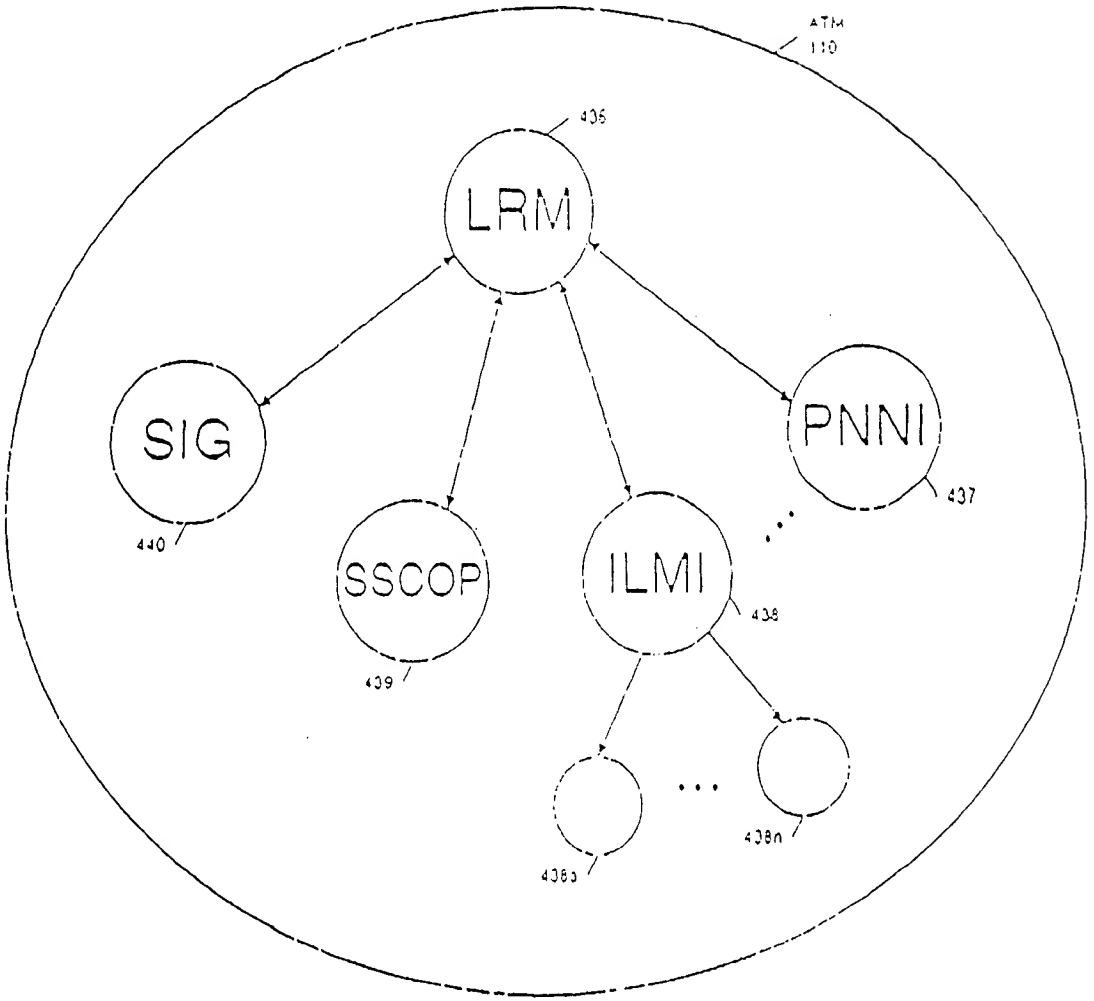


FIG. 28

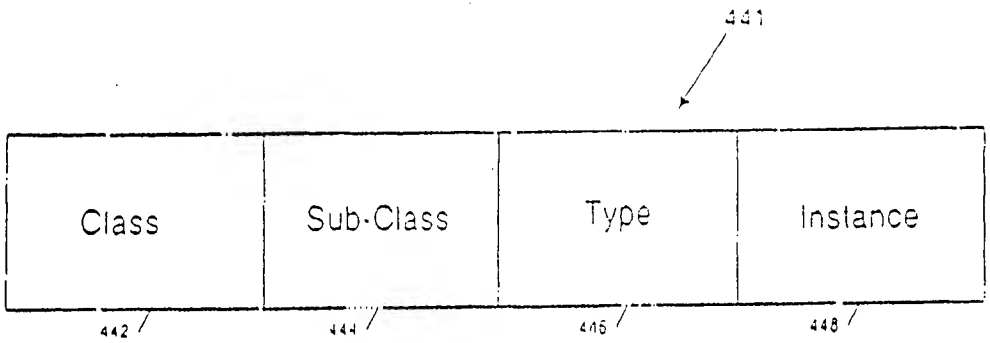


FIG. 29

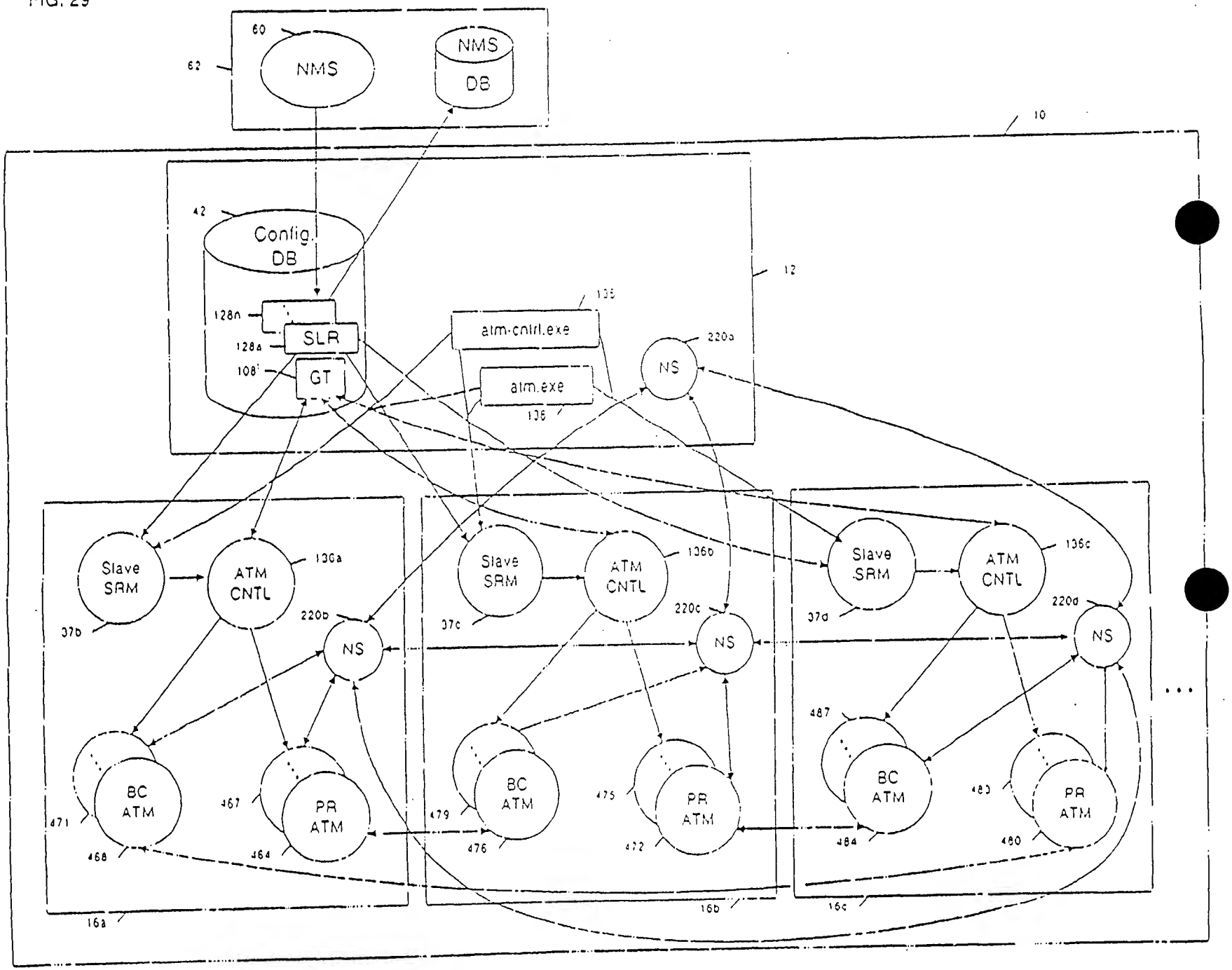


FIG.30

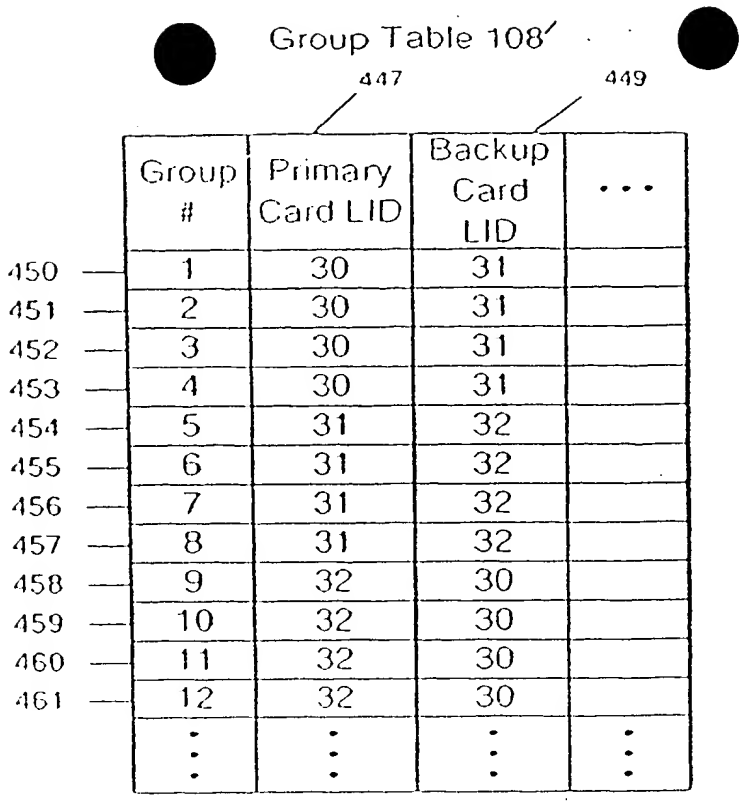

Group Table 108'
447
449
Group #
Primary Card LID
Backup Card LID
• • •
450
451
452
453
454
455
456
457
458
459
460
461
1 30 31
2 30 31
3 30 31
4 30 31
5 31 32
6 31 32
7 31 32
8 31 32
9 32 30
10 32 30
11 32 30
12 32 30

Fig. 31a

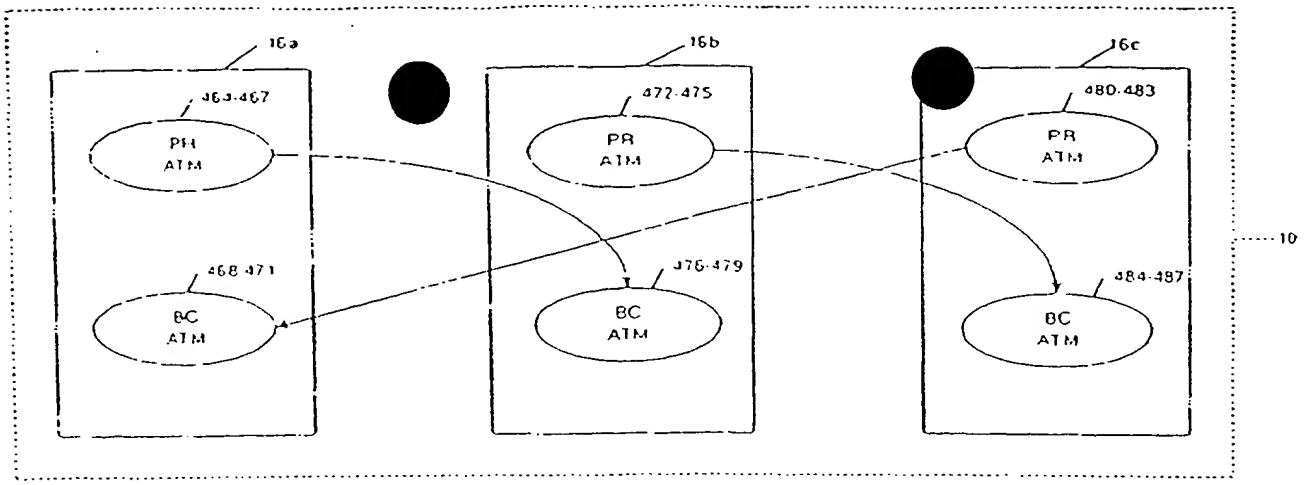


Fig. 31b

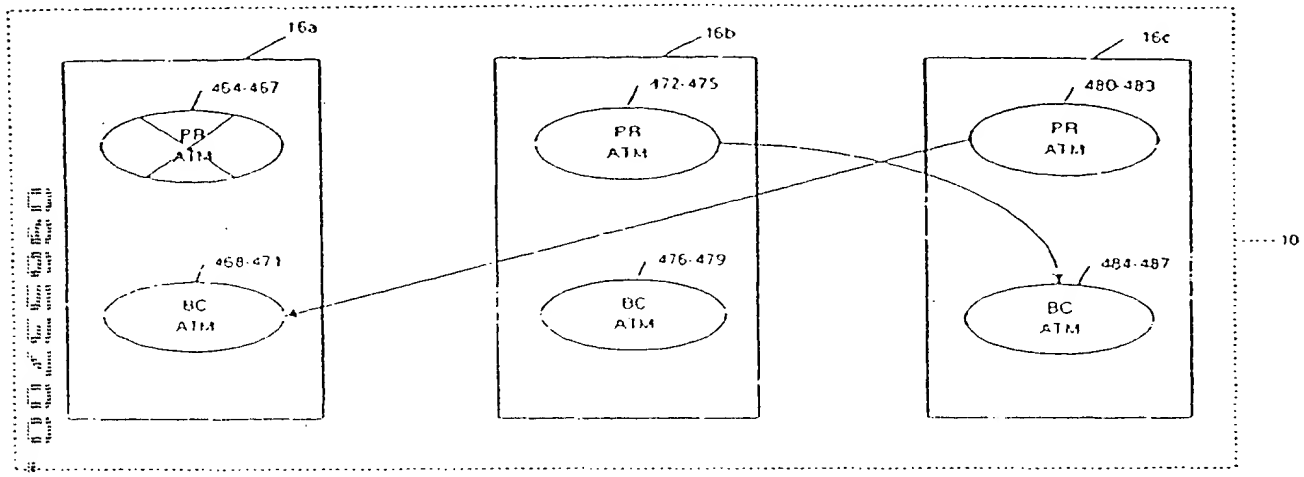


Fig. 31c

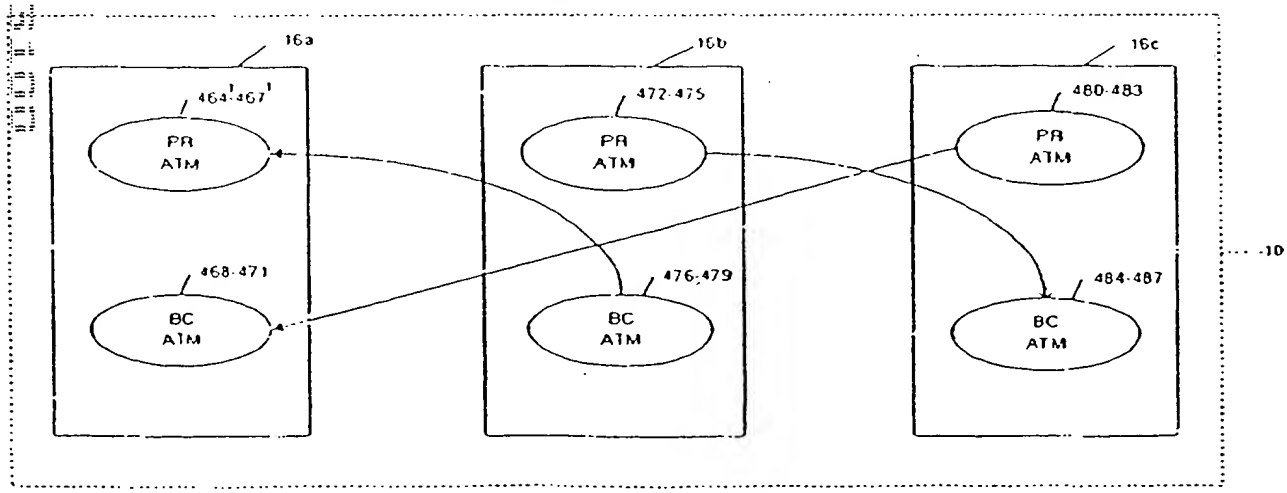


Fig. 32a

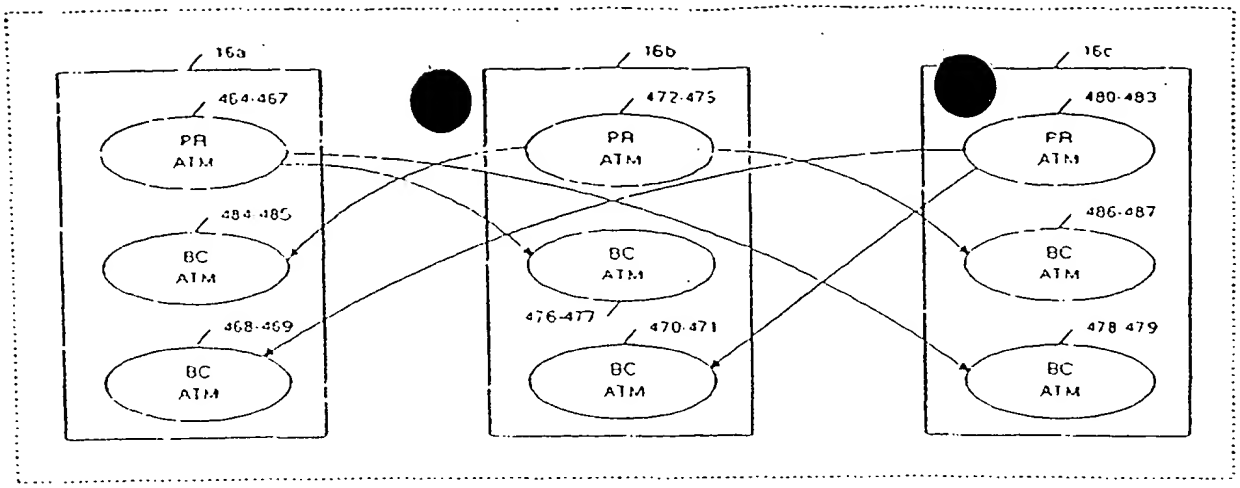


Fig. 32b

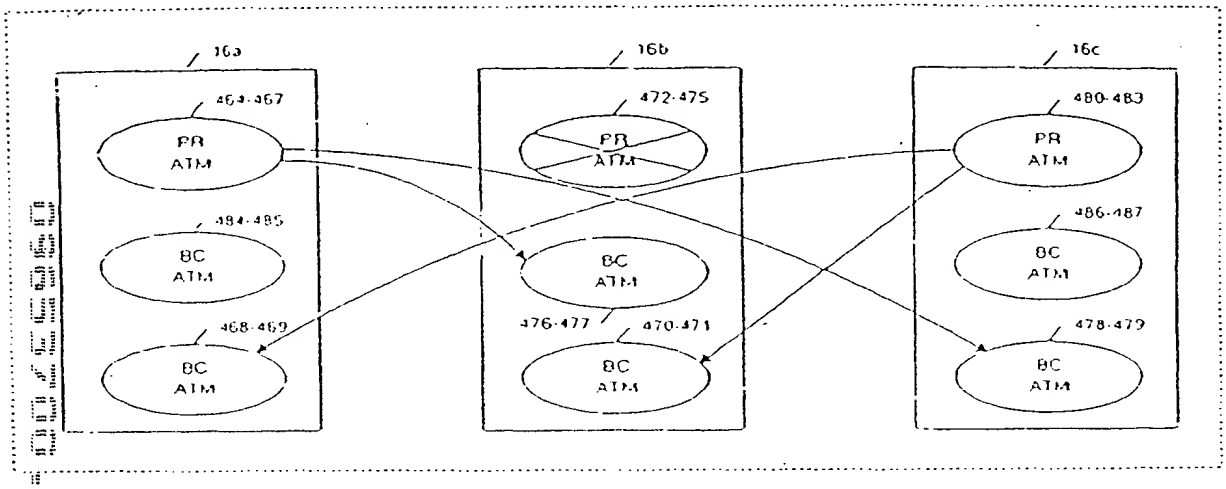


Fig. 32c

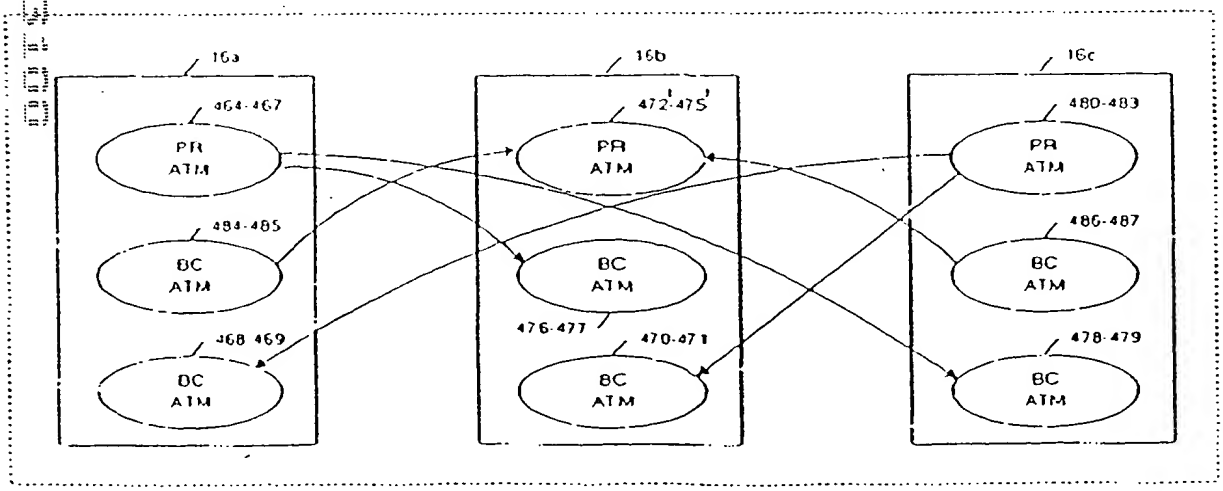


FIG. 33a

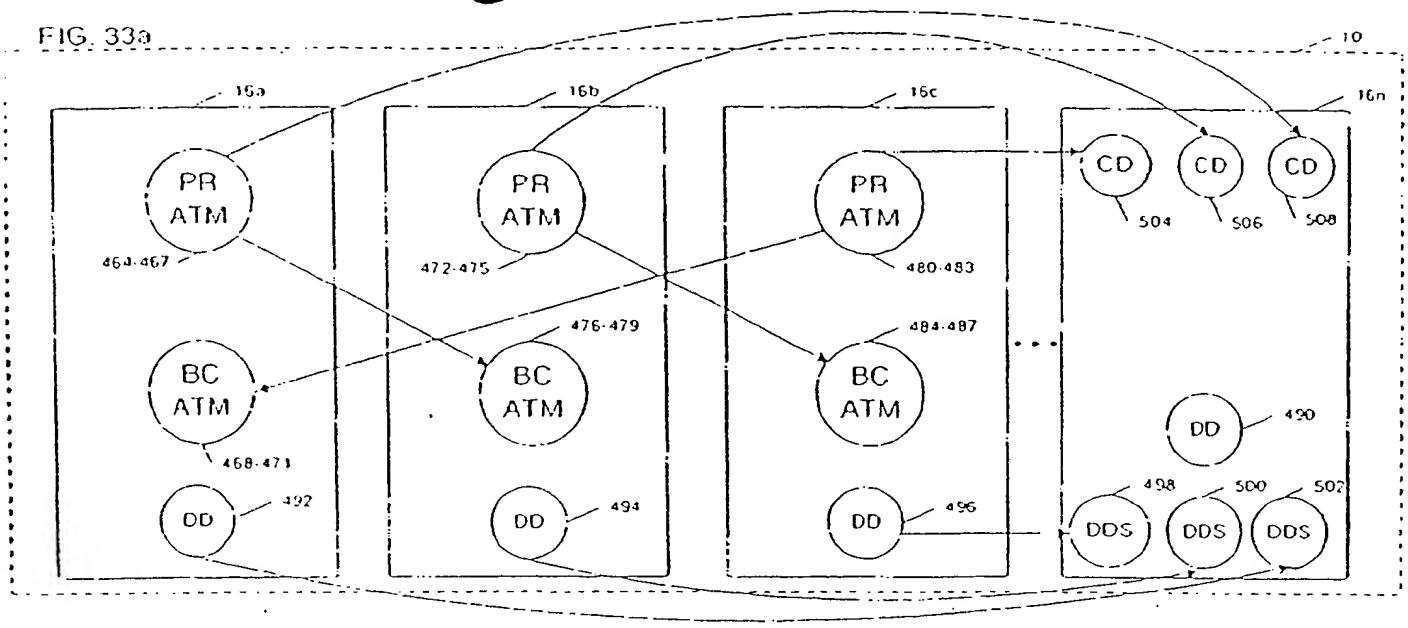


FIG. 33b

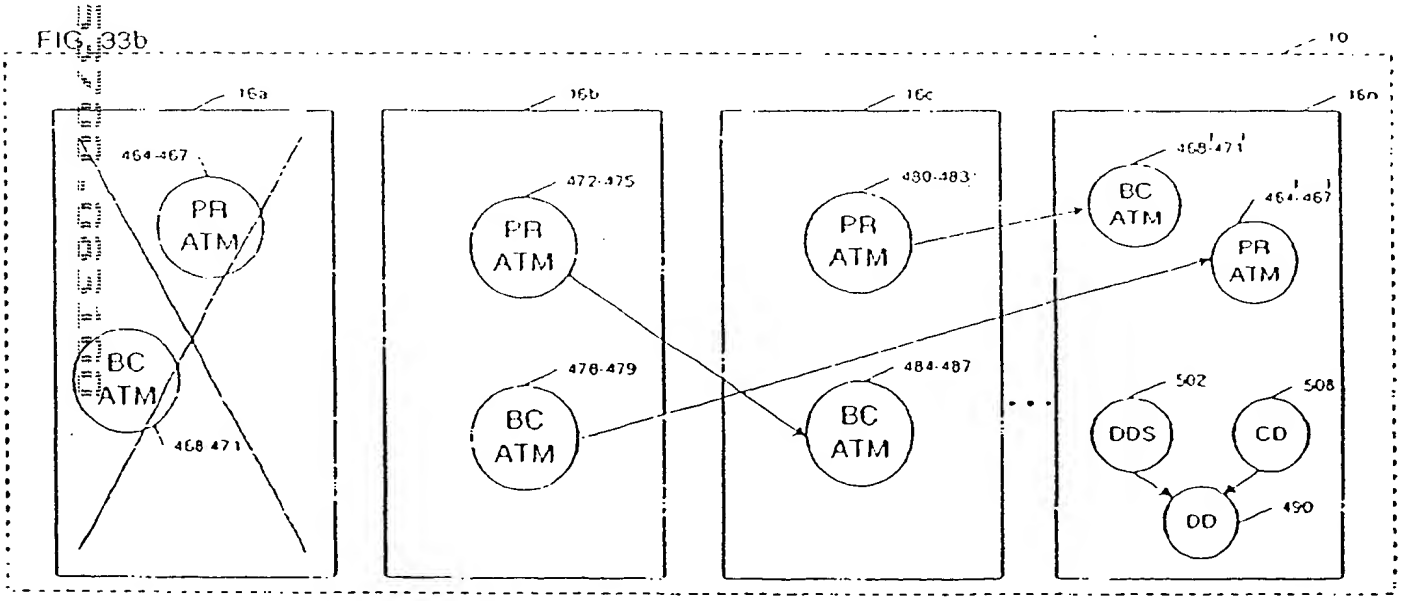


FIG. 33c

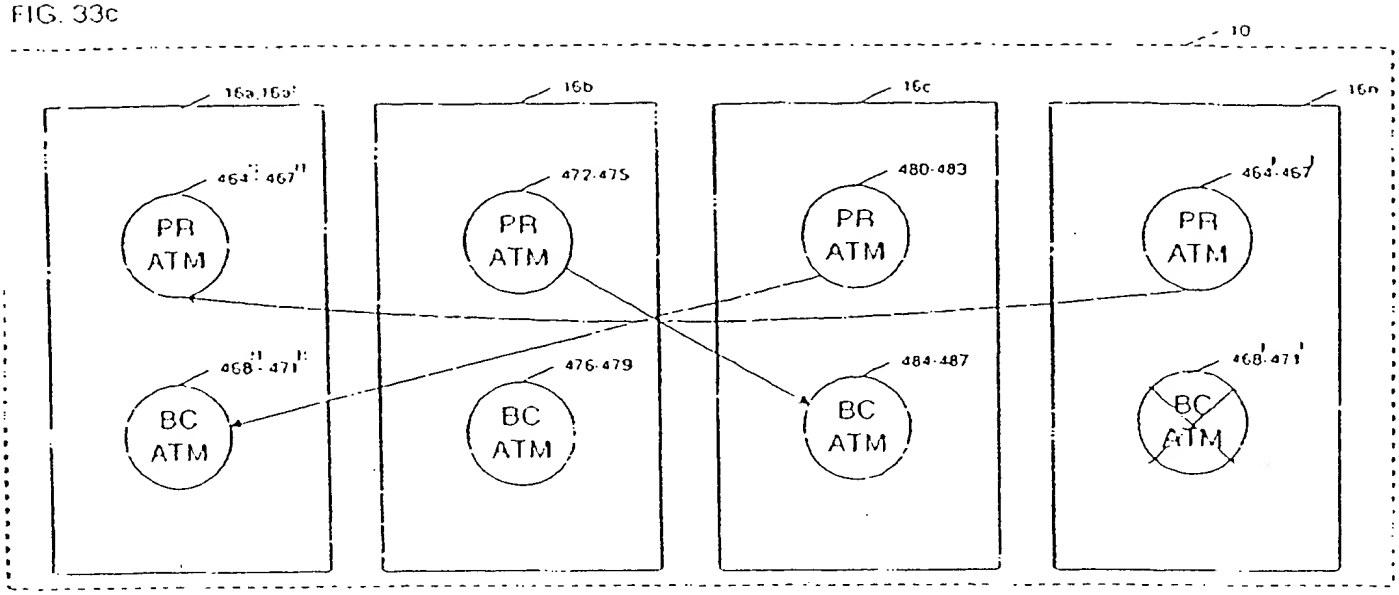


FIG. 33d

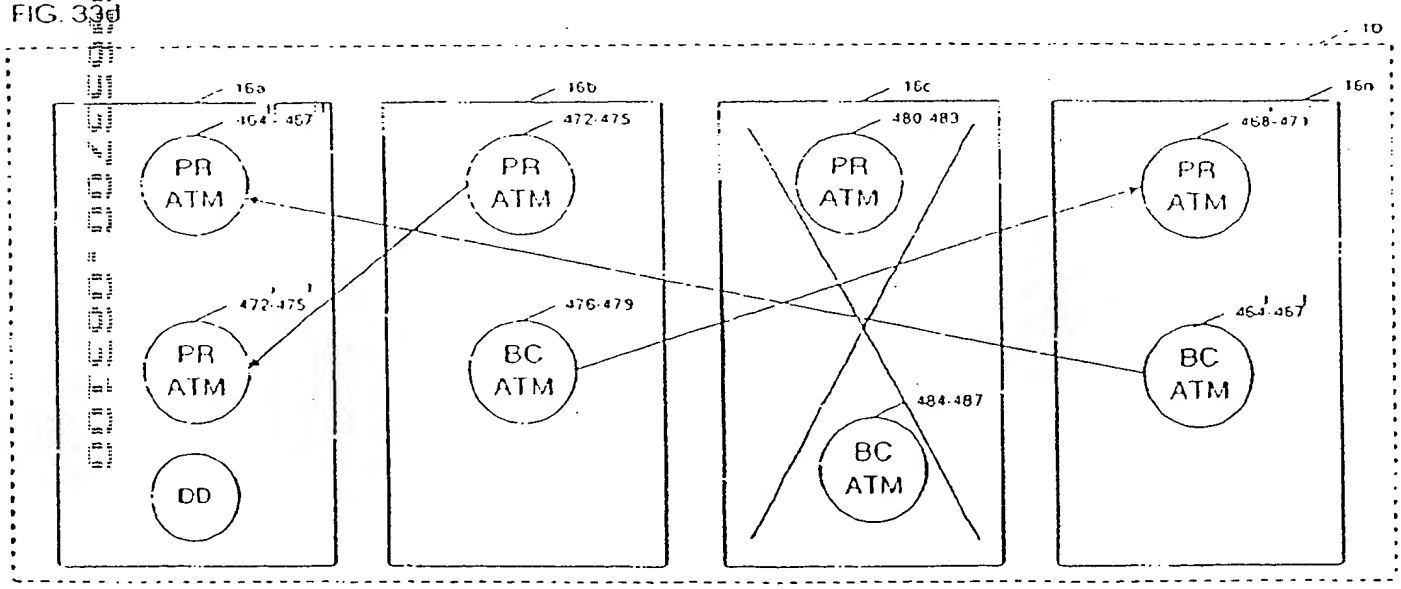


Fig. 34a

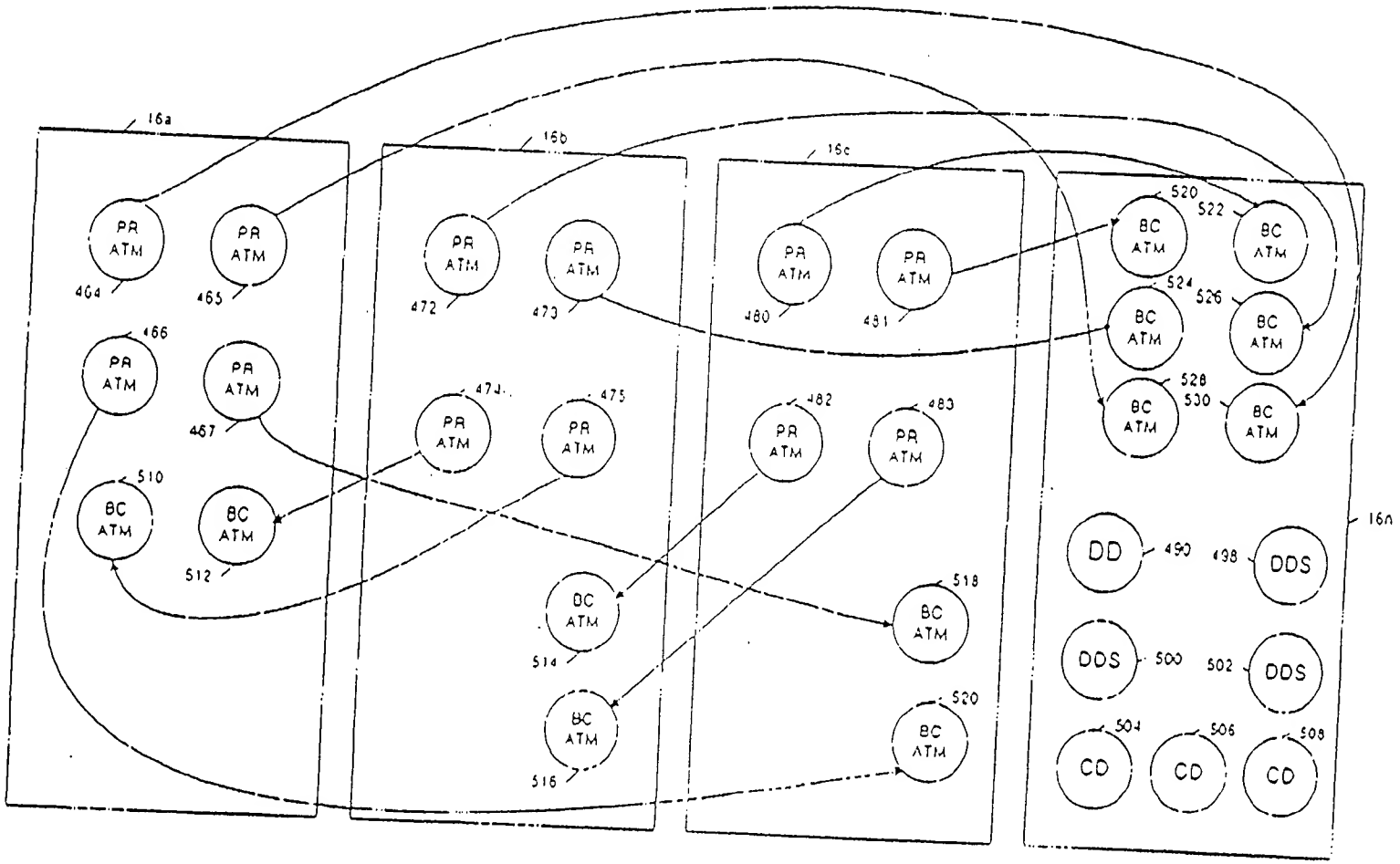
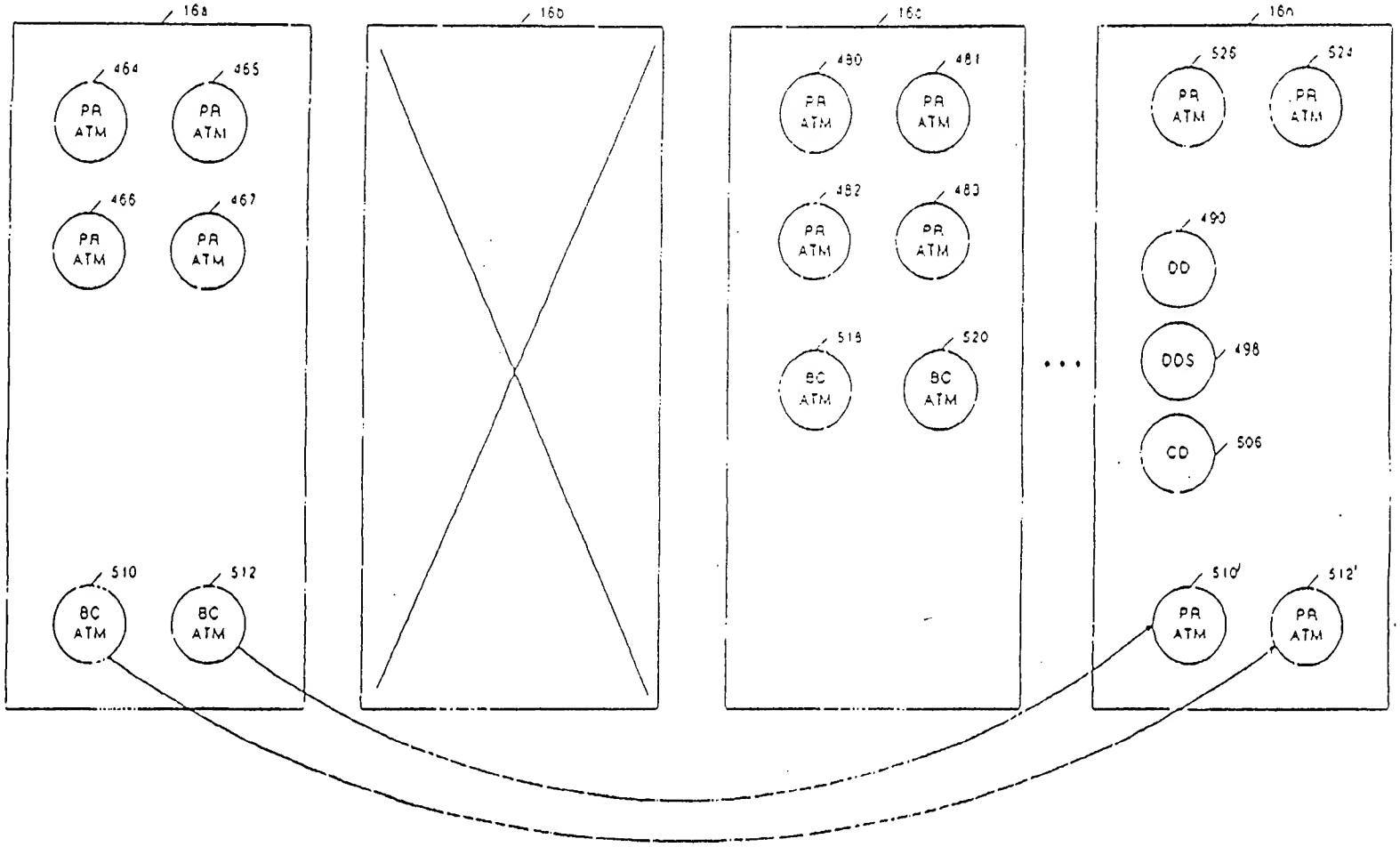

16a
16b
16c
16n
PR ATM
464
465
466
467
472
473
474
475
480
481
482
483
BC ATM
510
512
514
516
518
520
522
524
526
528
530
DD
490
498
DDS
500
502
CD
504
506
508

FIG. 34b


168
160
166
160
464
465
466
467
PR ATM
480
481
482
483
518
520
BC ATM
525
524
490
DD
DDS
498
CD
506
510
512
510'
512'

NMS
PDM
Quadrant
(Redundant) Forwarding Card
Forwarding Card
Switching Fabric Card (SF)
Ethernet Control Card
Universal Port Card

FIG. 35

FIG. 36

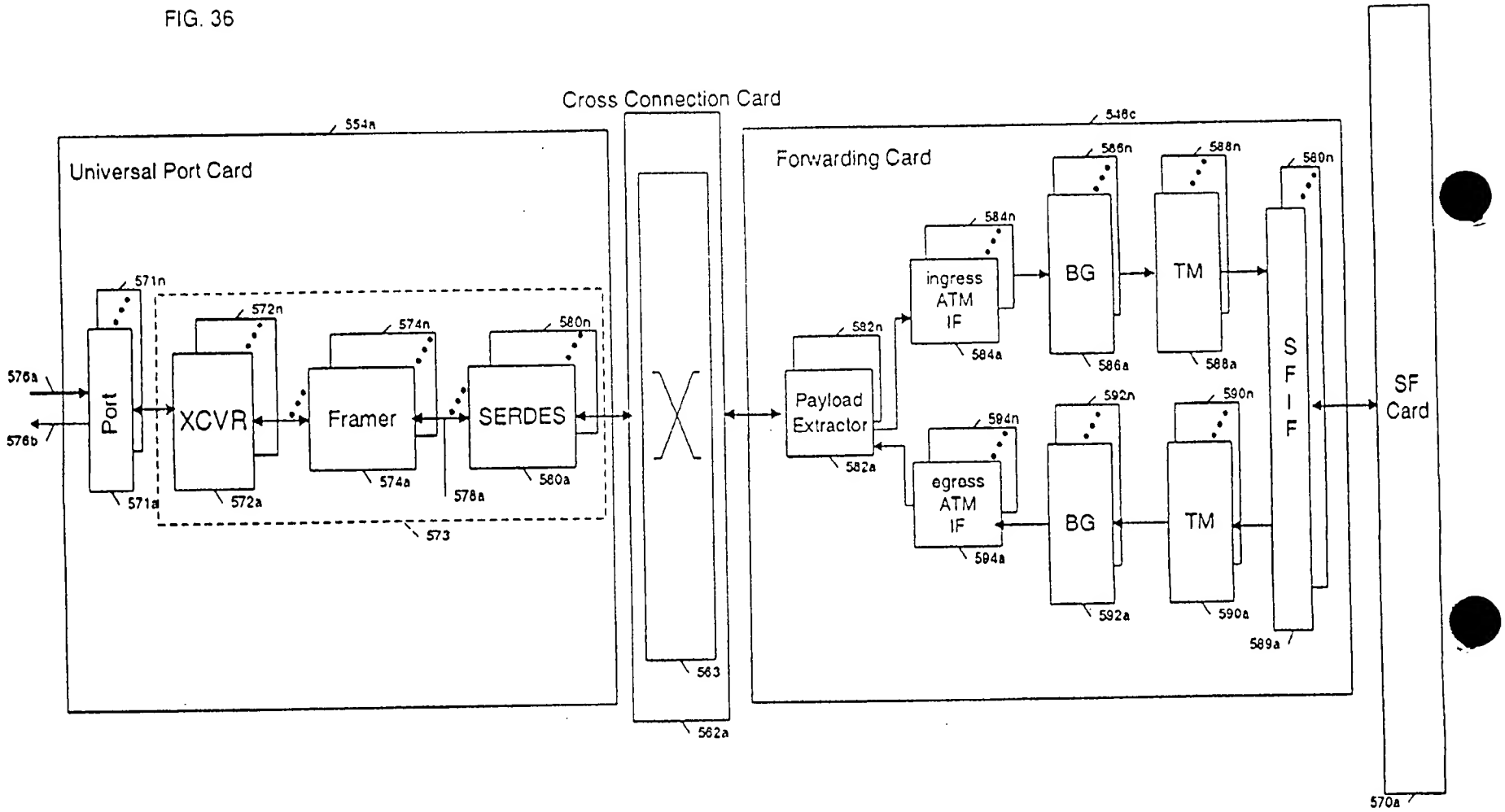


FIG. 37

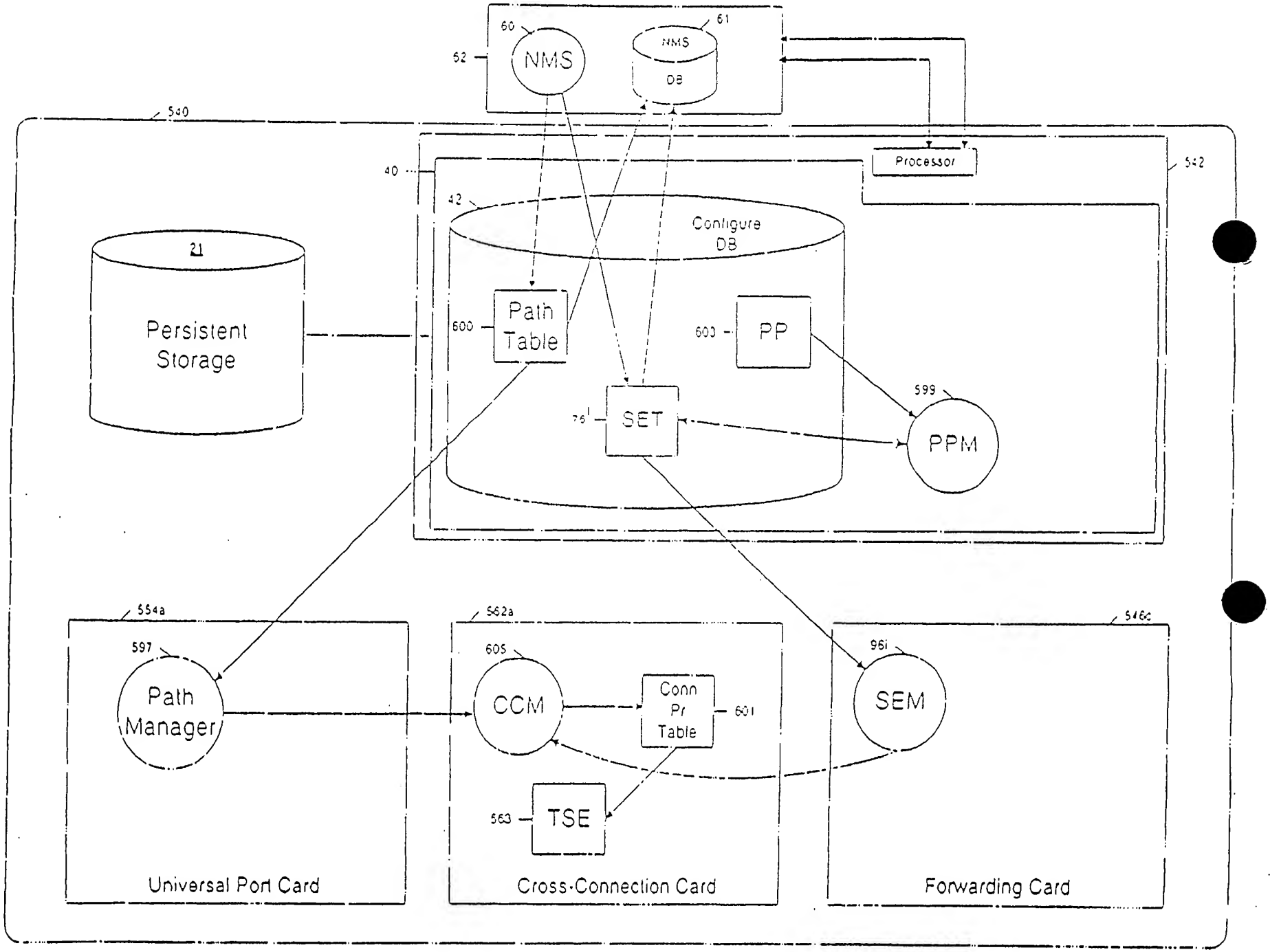

60
NMS
61
NMS
DB
52
540
Processor
542
40
42
Configure
DB
21
Persistent
Storage
600
Path
Table
603
PP
599
76'
SET
PPM
554a
562a
546c
597
Path
Manager
605
CCM
Conn
Pr
Table
601
961
SEM
563
TSE
Universal Port Card
Cross-Connection Card
Forwarding Card

FIG. 38

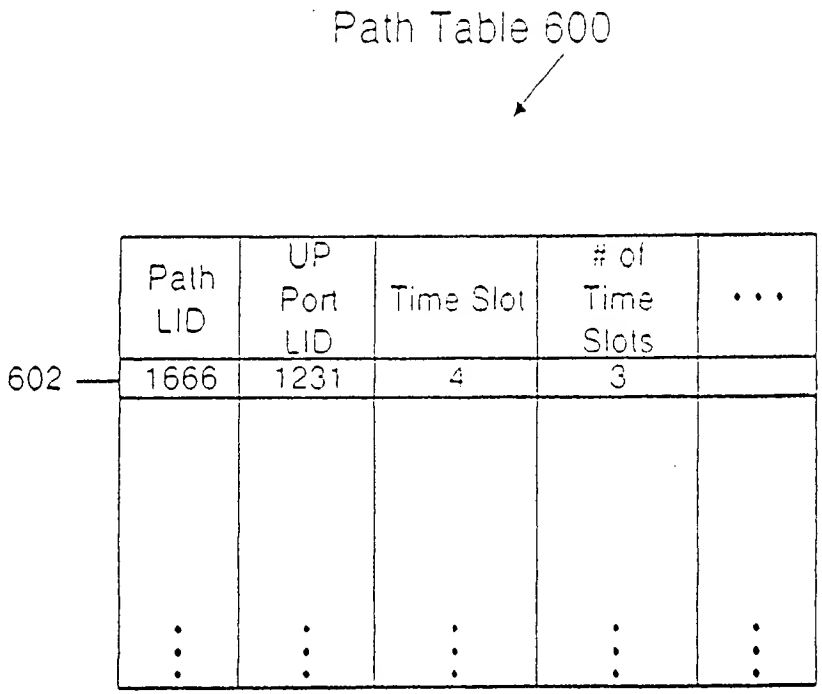
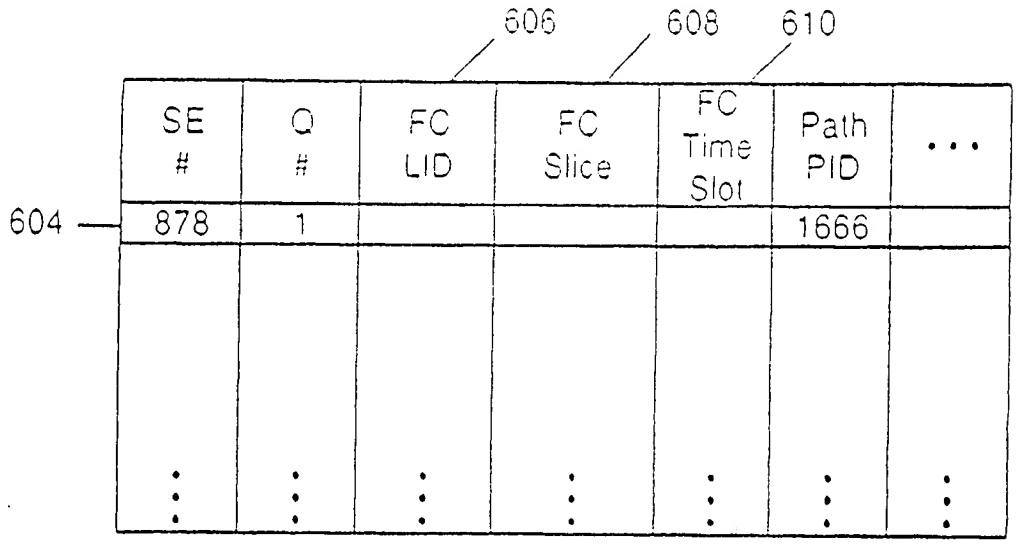

Path Table 600
Path LID
UP Port LID
Time Slot
# of Time Slots
• • •
602
1666
1231
4
3

FIG. 39

Service End Point Table 76'



19"
24"
41b
41b
EQUIPE
540
619
546a
546b
546c
546d
546e
548a
548b
548c
548d
548e
547
547
547
547
550a
550b
550c
550d
550e
552a
552b
552c
552d
552e
41a
41a
41c

Fig. 40

FIG. 41a

Front

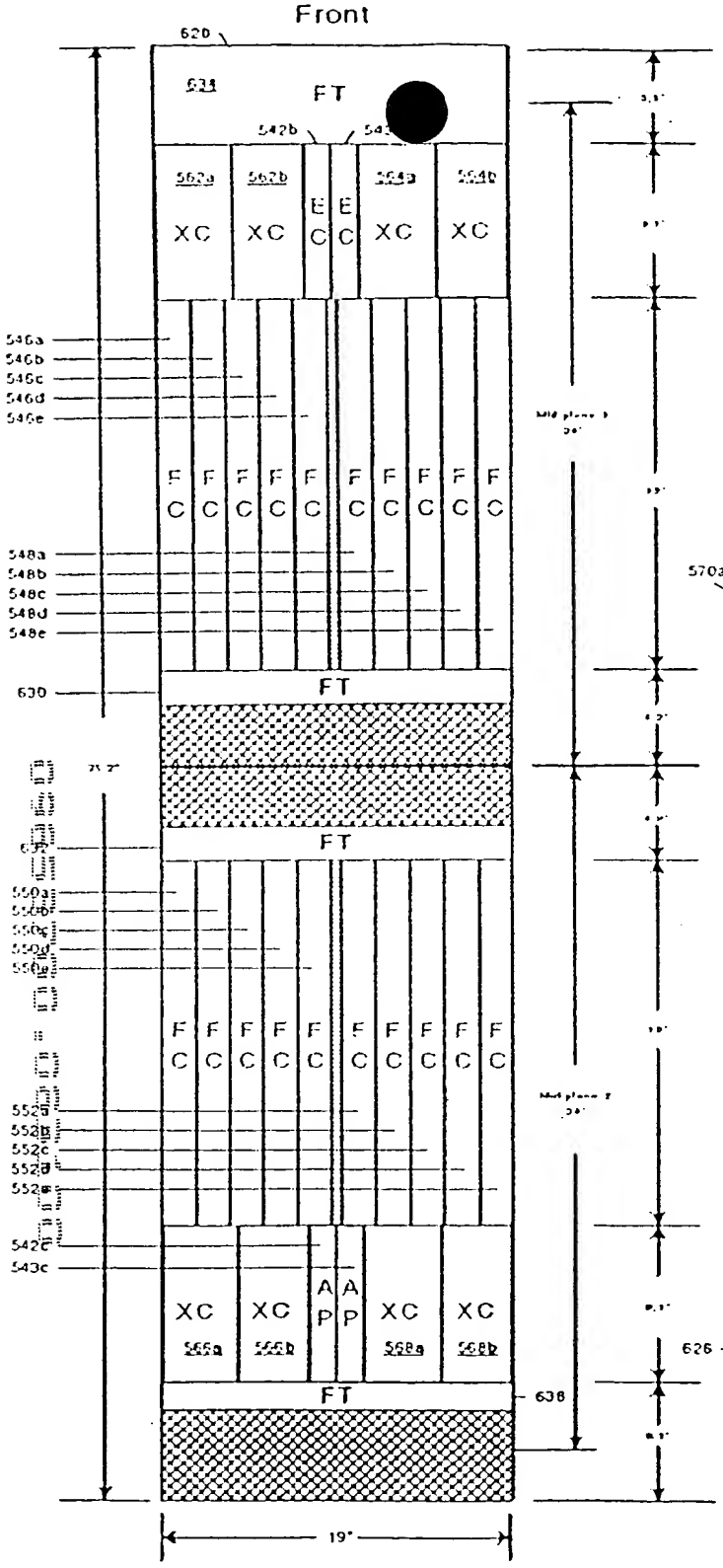


FIG. 41b

Back

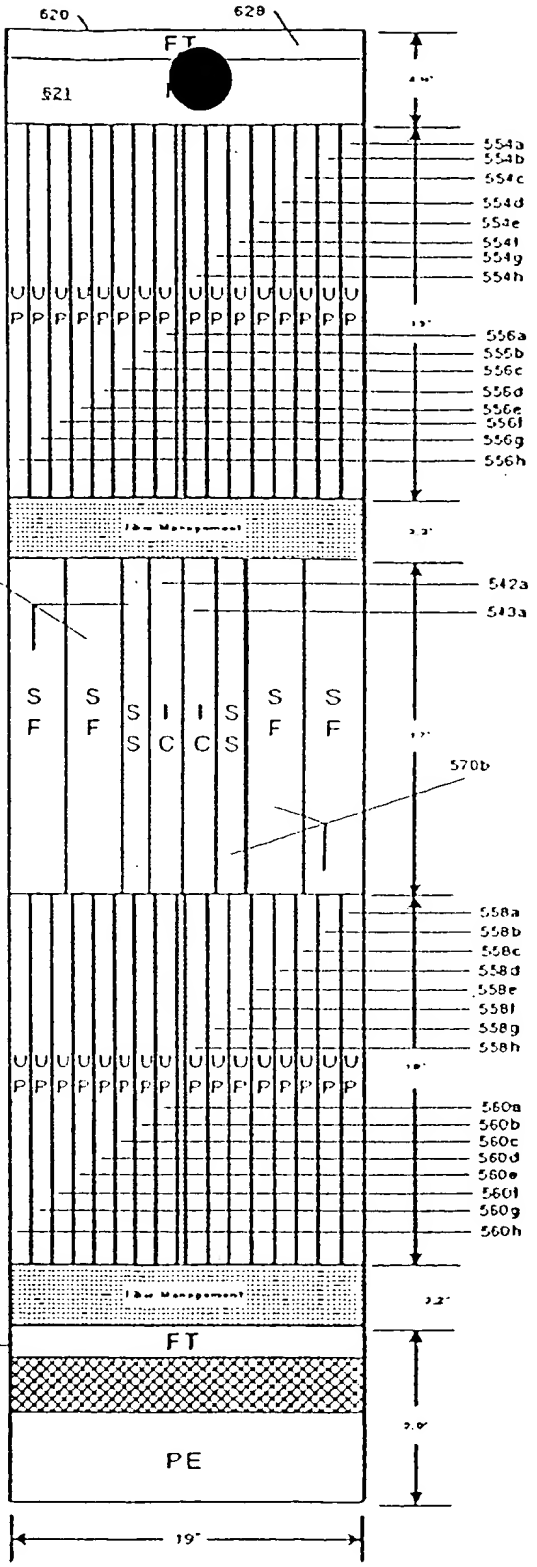


FIG. 41c

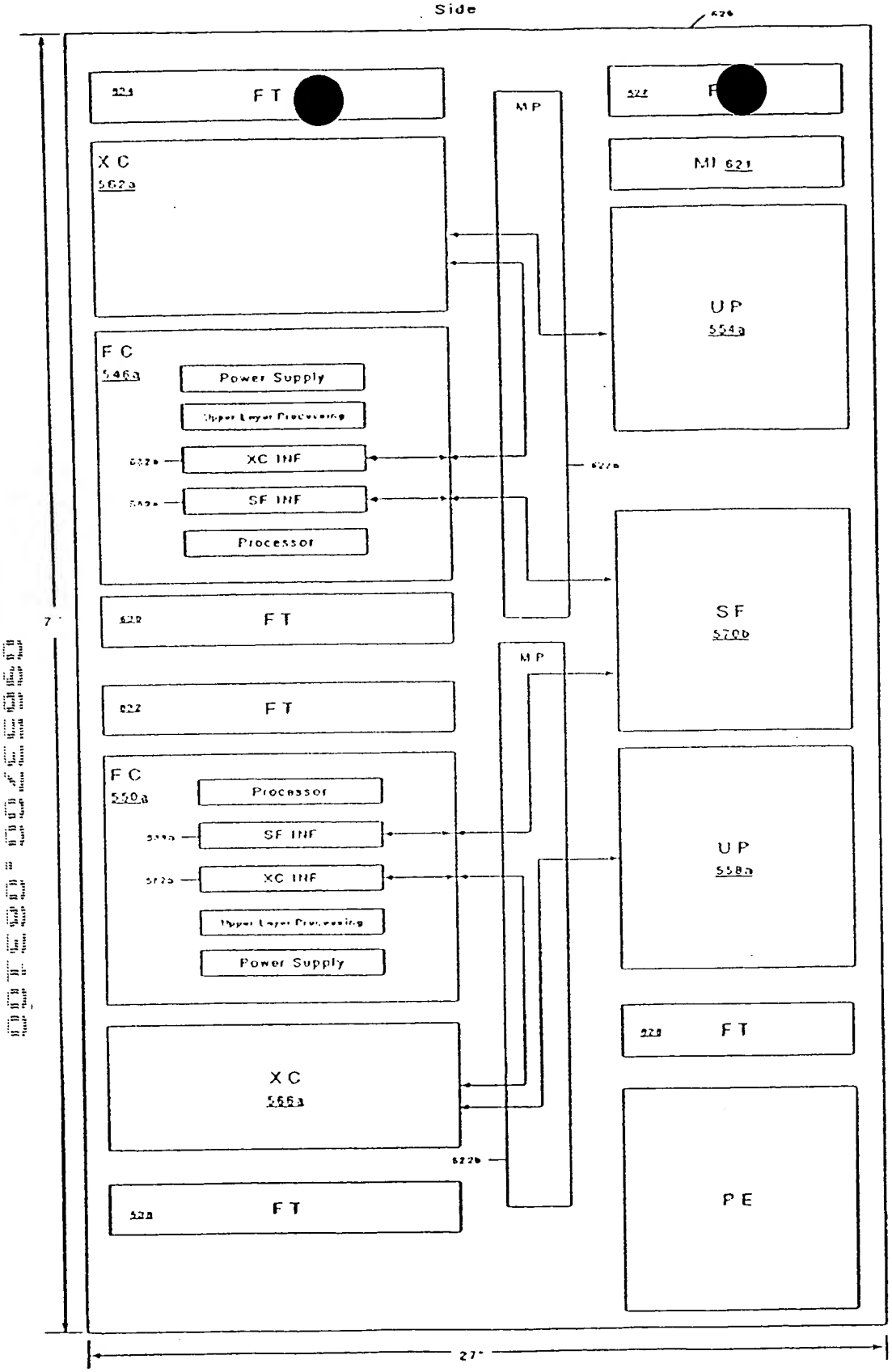

Side
FT
MP
XC
562a
MI 621
UP
554a
FC
546a
Power Supply
XC INF
SF INF
Processor
FT
SF
570a
MP
FT
FC
550a
Processor
SF INF
XC INF
Power Supply
UP
558a
FT
XC
566a
FT
PE
27"

FIG. 42

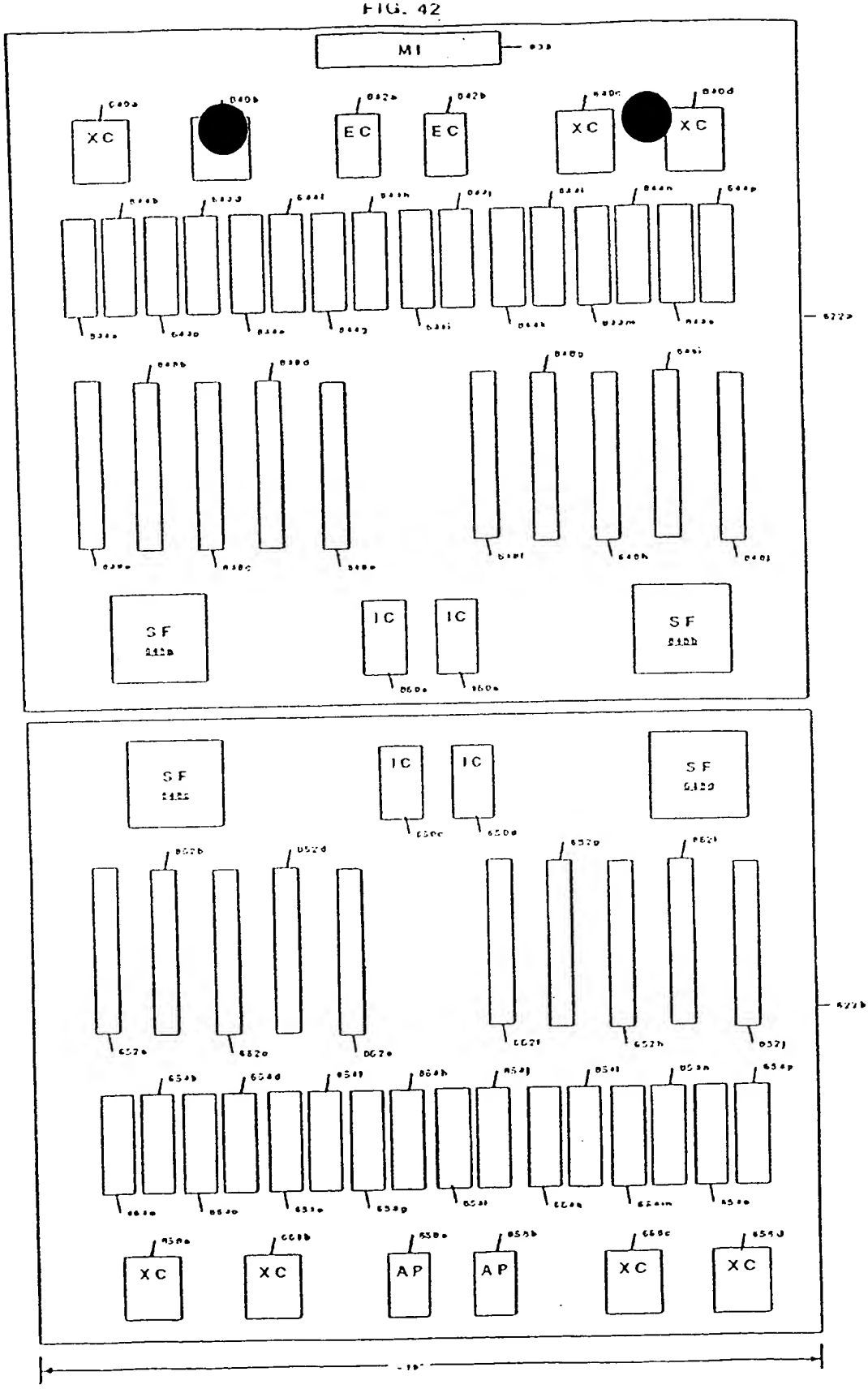
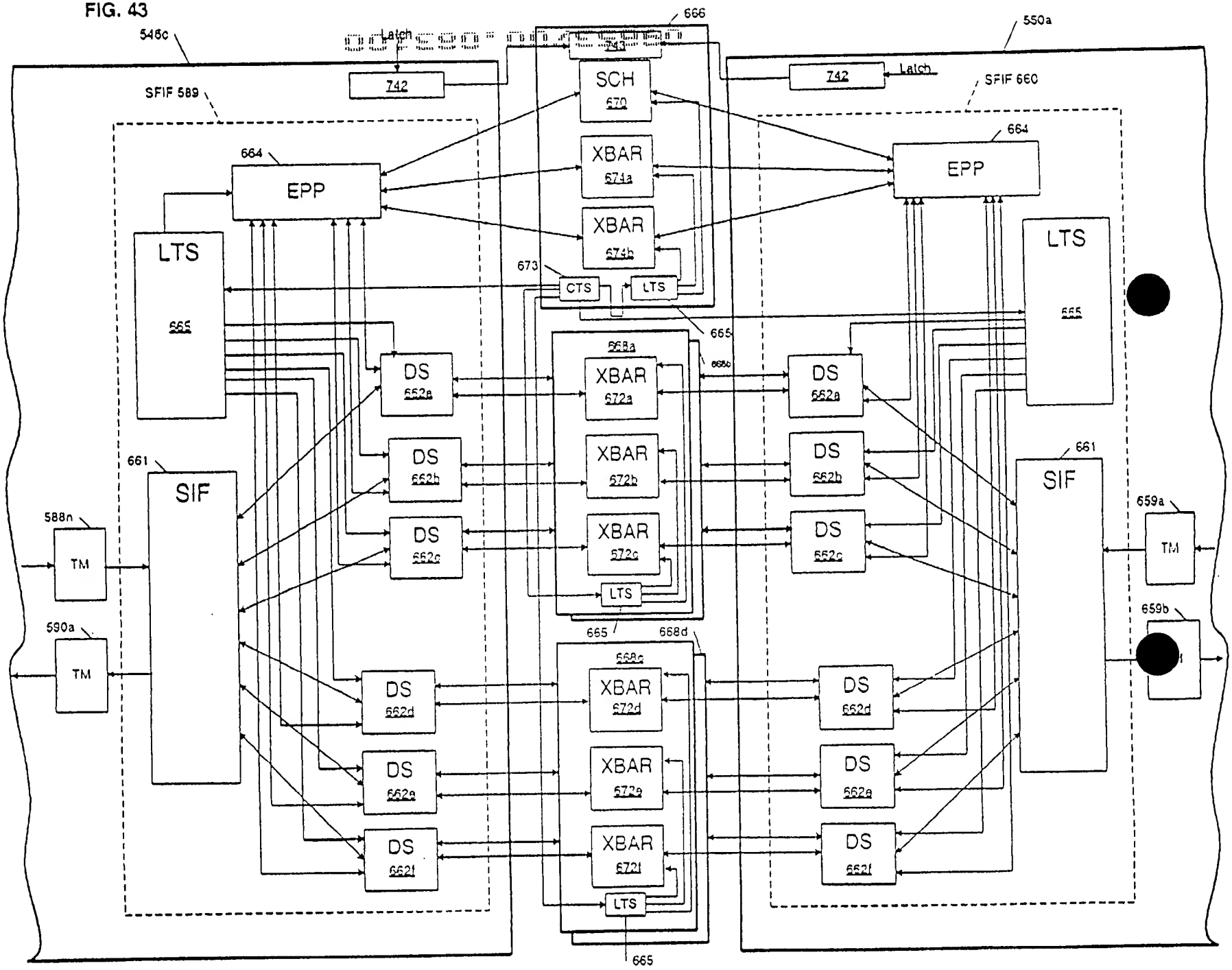


FIG. 43


546c
Latch
742
666
743
SCH
670
XBAR
674a
XBAR
674b
673
CTS
LTS
665
668a
668b
668c
668d
550a
742
Latch
SFIF 660
664
EPP
LTS
665
SFIF 589
664
EPP
LTS
665
DS
662a
DS
662b
DS
662c
DS
662d
DS
662e
DS
662f
XBAR
672a
XBAR
672b
XBAR
672c
XBAR
672d
XBAR
672e
XBAR
672f
LTS
661
SIF
661
SIF
588n
TM
590a
TM
659a
TM
659b

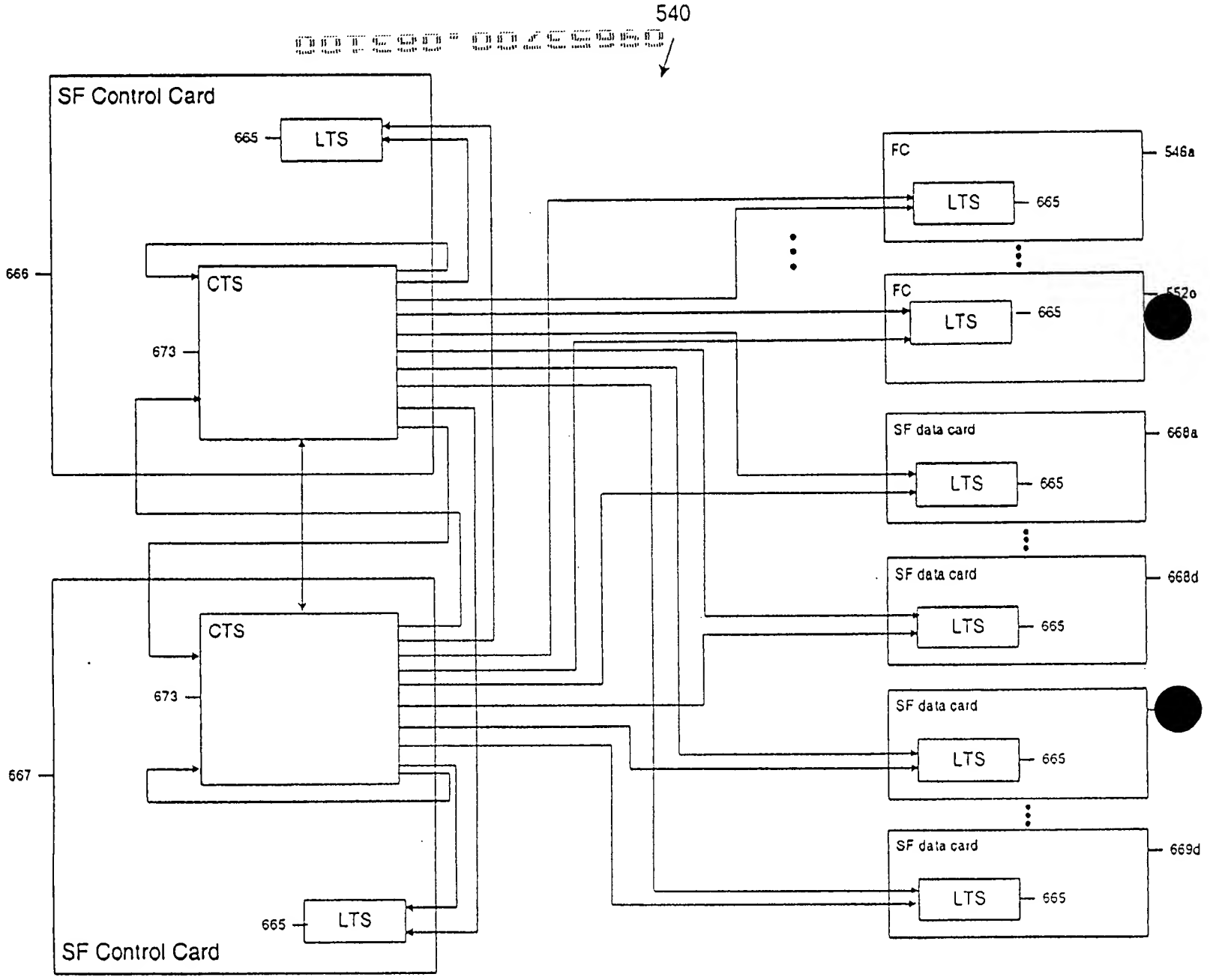
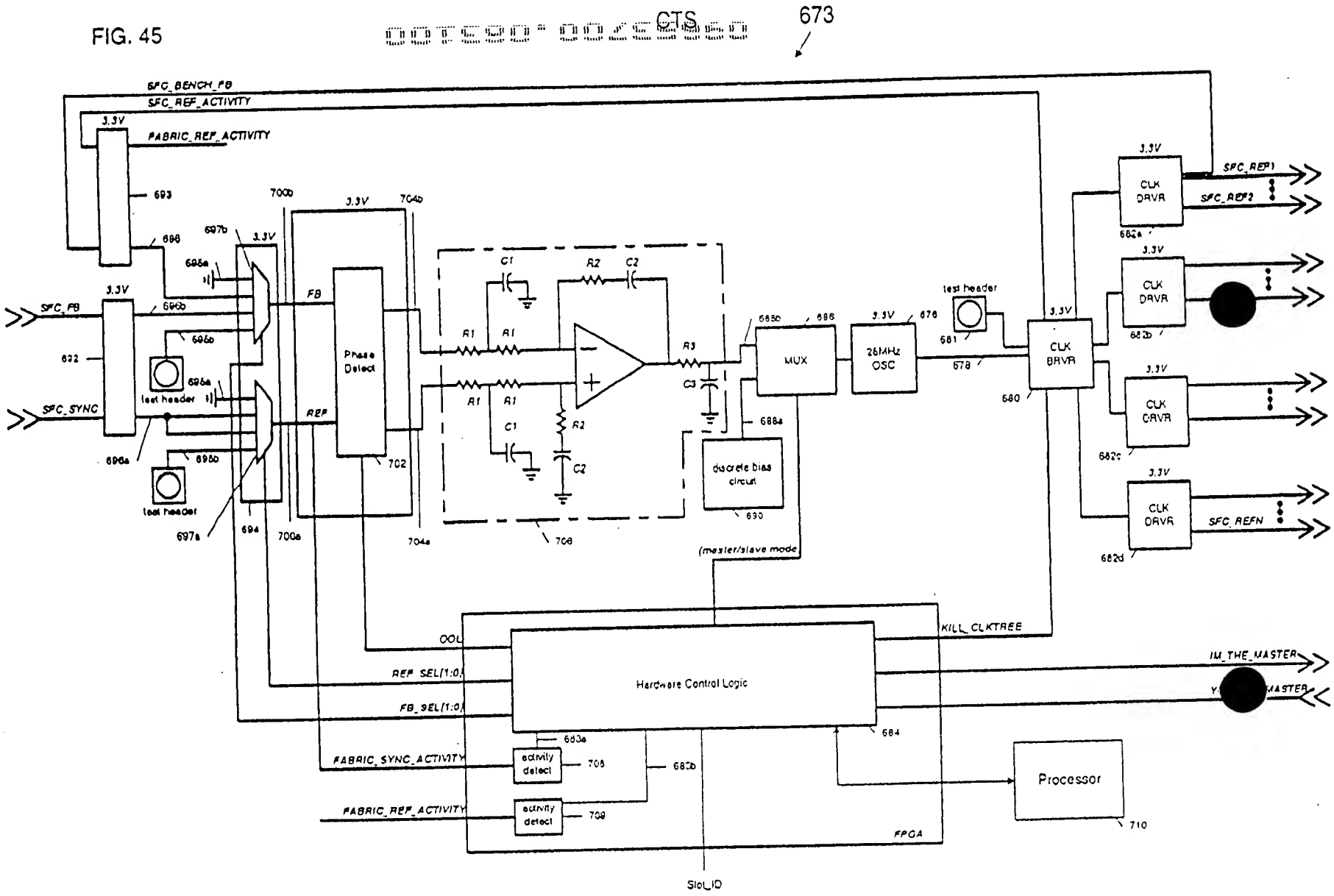


FIG. 44

FIG. 45


673
SFC_BENCH_FB
SFC_REF_ACTIVITY
FABRIC_REF_ACTIVITY
3.3V
693
698
697b
695a
696b
SFC_FB
622
SFC_SYNC
696a
test header
695b
697a
694
700b
700a
FB
REF
Phase Detect
702
704b
704a
C1
R2
C2
R1
R3
C3
706
685c
686
MUX
26MHz OSC
676
678
test header
681
680
CLK DRVR
682a
682b
682c
682d
SFC_REF1
SFC_REF2
SFC_REFN
685a
discrete bias circuit
690
(master/slave mode
KILL_CLKTREE
IM_THE_MASTER
Hardware Control Logic
684
REF_SEL[1:0]
FB_SEL[1:0]
FABRIC_SYNC_ACTIVITY
FABRIC_REF_ACTIVITY
activity detect
683a
705
709
683b
Processor
710
FPGA
SlotID

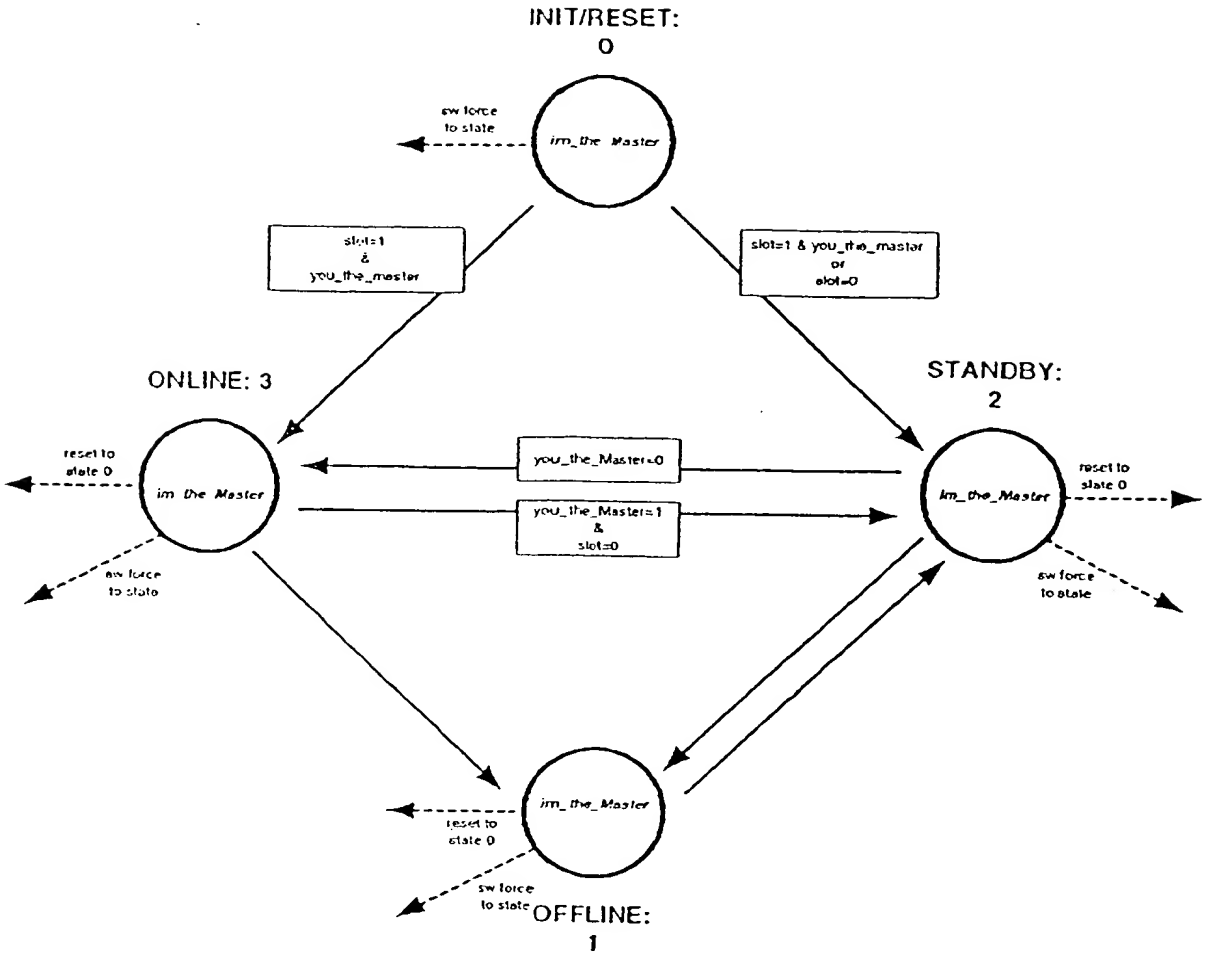

INIT/RESET:
0
sw force
to state
im_the_Master
slot=1
&
you_the_master
slot=1 & you_the_master
or
slot=0
ONLINE: 3
STANDBY:
2
reset to
state 0
im_the_Master
you_the_Master=0
you_the_Master=1
&
slot=0
im_the_Master
reset to
state 0
sw force
to state
sw force
to state
im_the_Master
reset to
state 0
sw force
to state
OFFLINE:
1

FIG. 46

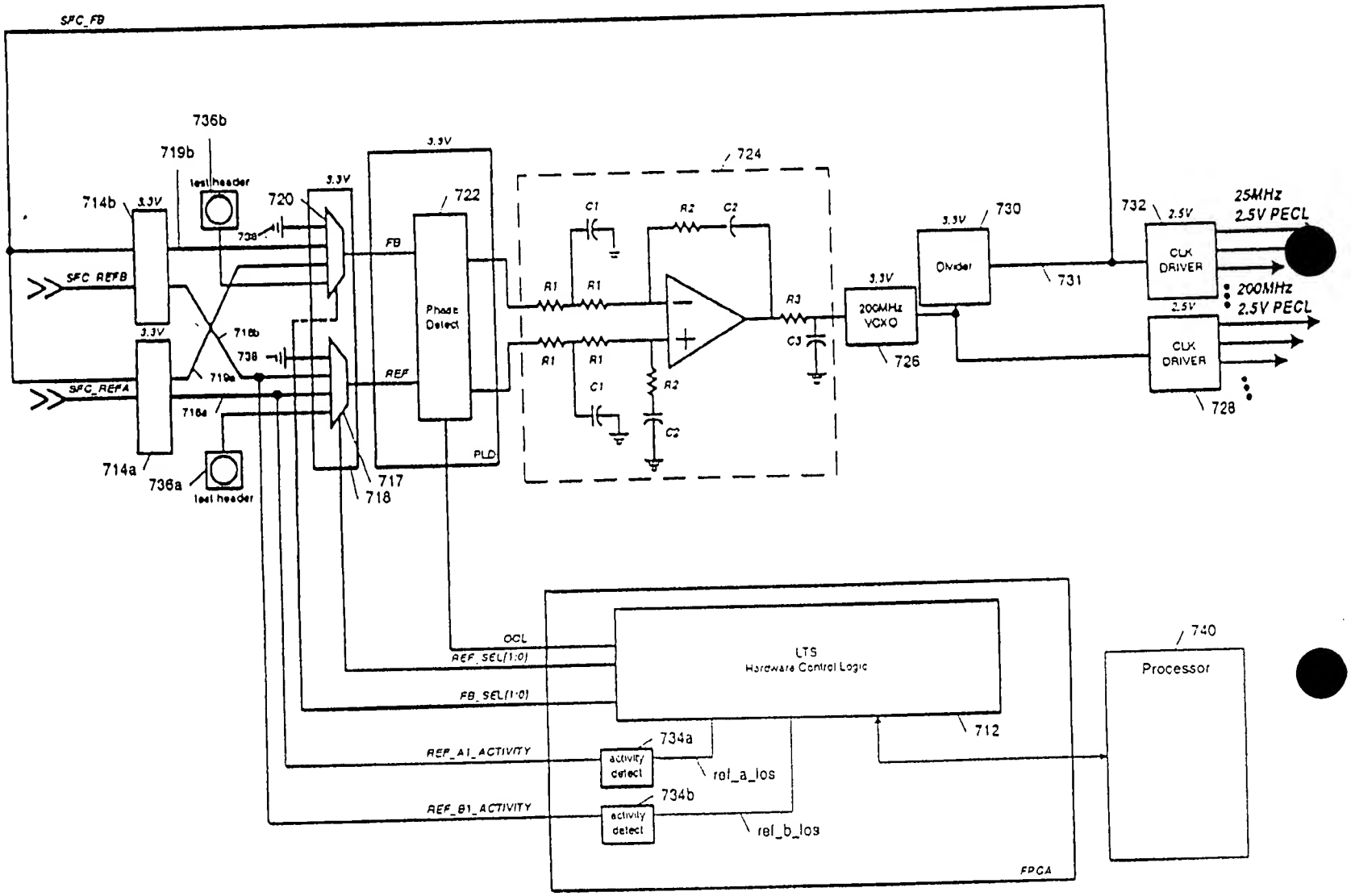


FIG. 47

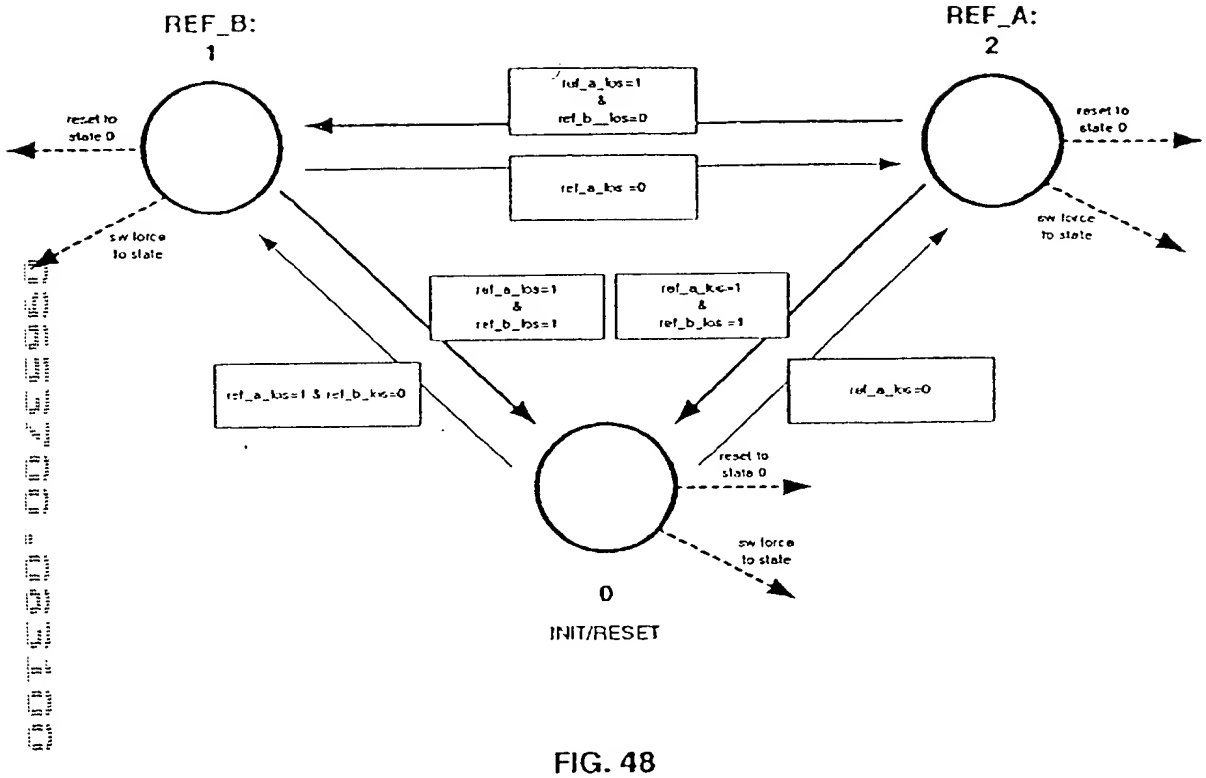

REF_B:
1
REF_A:
2
reset to state 0
sw force to state
ref_a_los=1 & ref_b_los=0
ref_a_los =0
reset to state 0
sw force to state
ref_a_los=1 & ref_b_los=1
ref_a_los=1 & ref_b_los =1
ref_a_los=1 & ref_b_los=0
ref_a_los=0
reset to state 0
sw force to state
0
INIT/RESET

FIG. 48

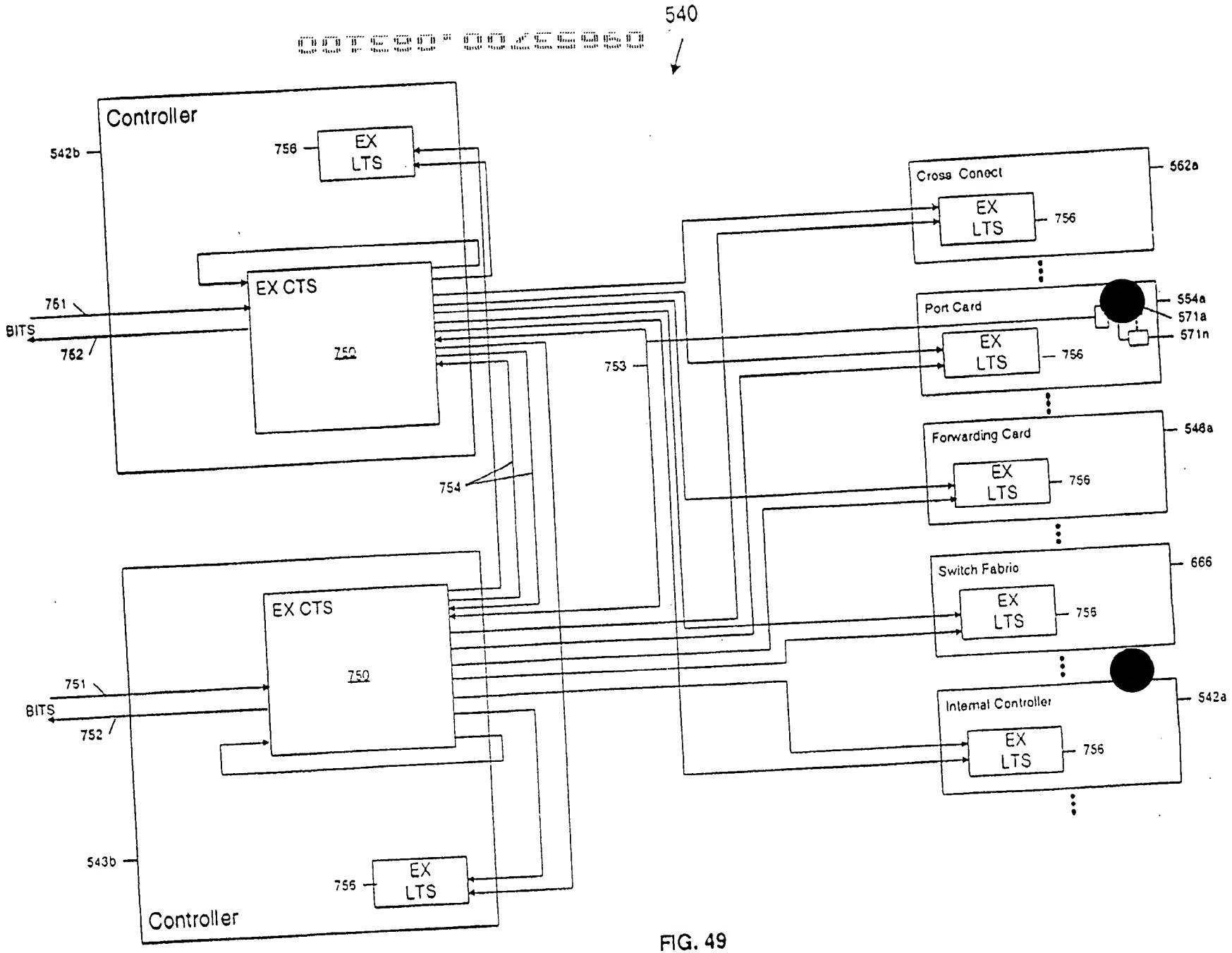


FIG. 49

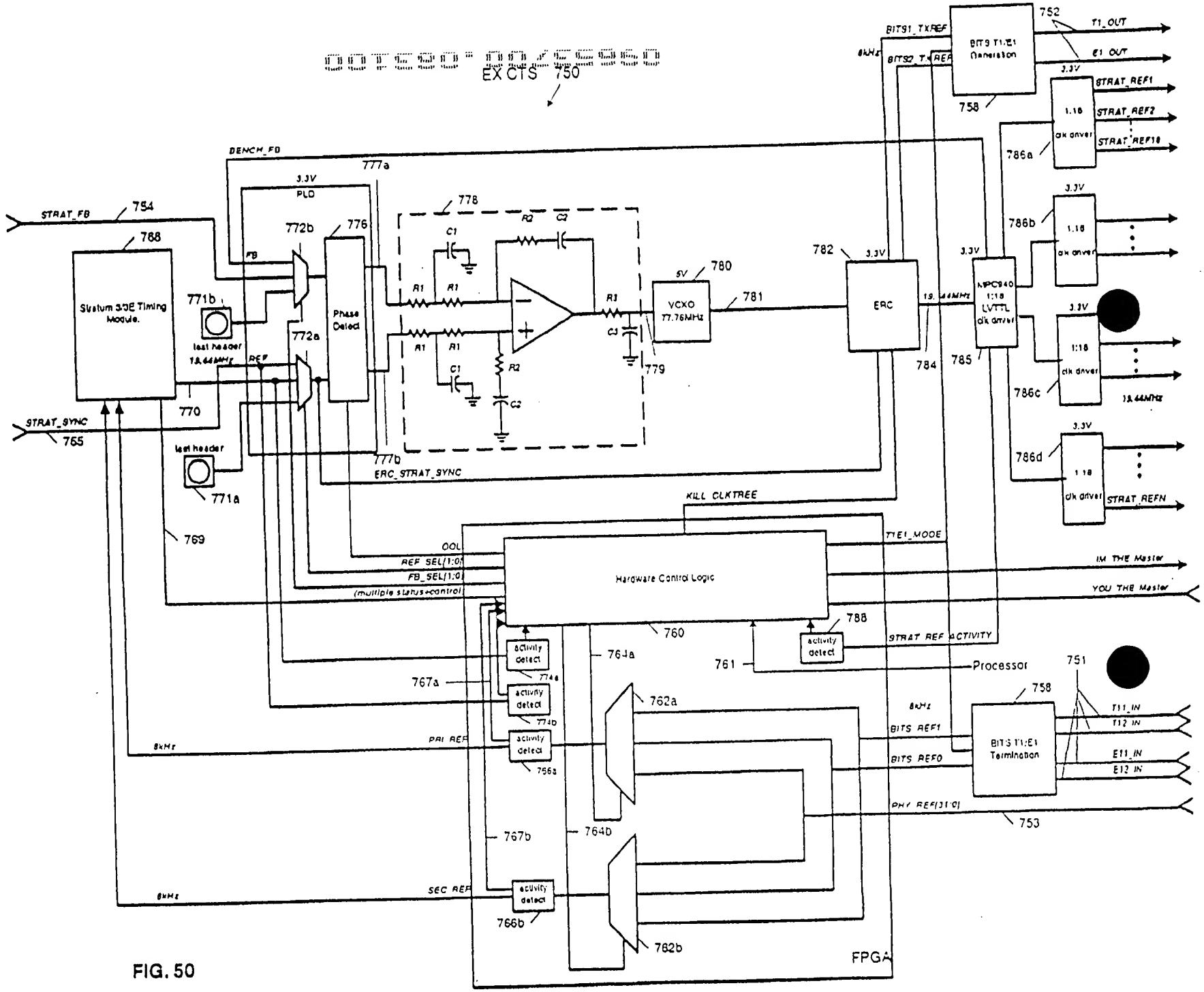

EXCTS 750
BENCH_FB
777a
3.3V
PLD
STRAT_FB
754
768
System 3GE Timing Module.
772b
776
FB
771b
test header
19.44MHz
REF
772a
Phase Detect
770
STRAT_SYNC
765
test header
771a
777b
ERC_STRAT_SYNC
769
778
C1
R2
C2
R1
R1
R3
C3
779
5V
780
VCXO
77.76MHz
781
782
3.3V
ERC
19.44MHz
784
3.3V
MPC940
1:18
LVTTL
clk driver
785
752
T1_OUT
E1_OUT
BITS1_TXREF
BITS2_TXREF
8kHz
BITS T1/E1 Generation
758
3.3V
STRAT_REF1
STRAT_REF2
STRAT_REF18
1:18
clk driver
786a
786b
786c
786d
STRAT_REFN
KILL CLKTREE
T1E1_MODE
I'M THE Master
YOU THE Master
OOL
REF_SEL[1:0]
FB_SEL[1:0]
(multiple status+control)
Hardware Control Logic
760
761
788
activity detect
STRAT REF ACTIVITY
Processor
751
764a
767a
774a
774b
774c
PRI REF
8kHz
762a
BITS REF1
BITS REF0
BITS T1/E1 Termination
T11_IN
T12_IN
E11_IN
E12_IN
PHY REF[31:0]
753
767b
764b
SEC REF
766a
766b
762b
FPGA

FIG. 50

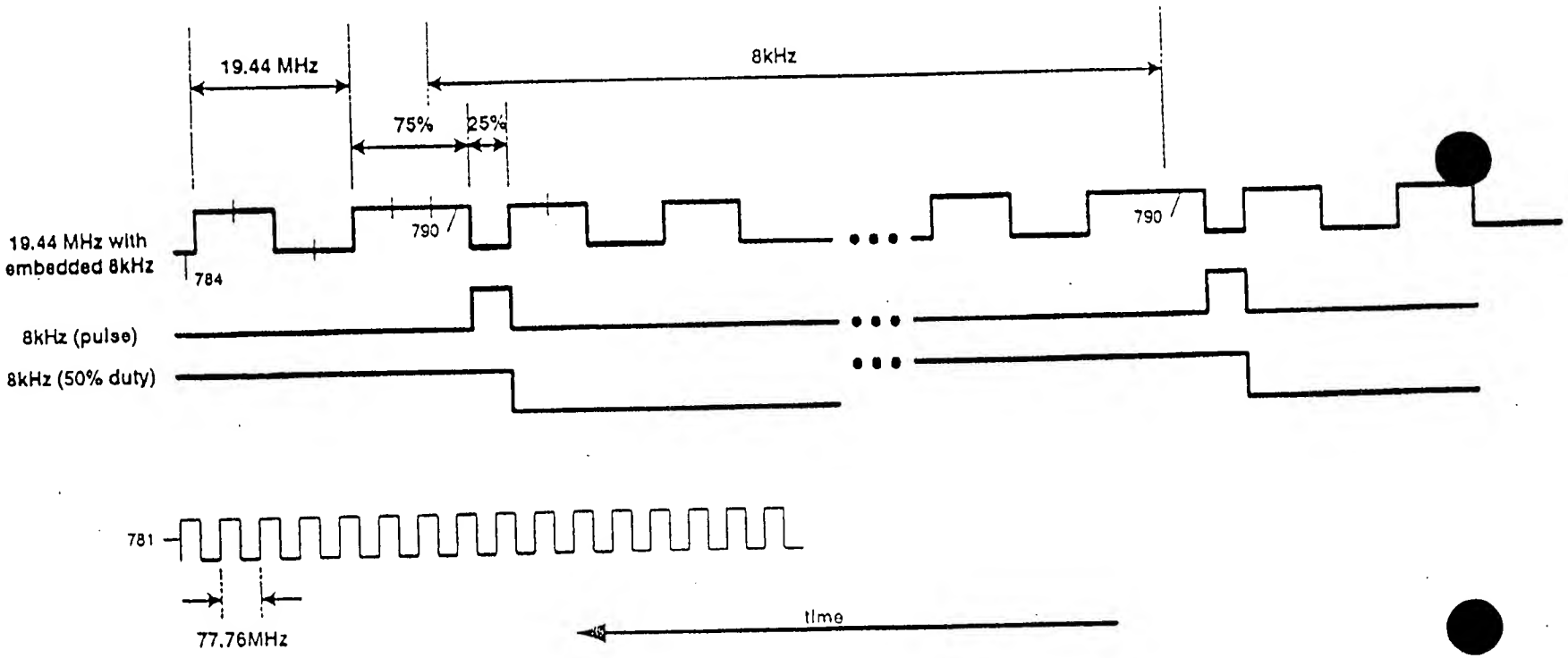

19.44 MHz
8kHz
75%
25%
19.44 MHz with
embedded 8kHz
784
790
790
8kHz (pulse)
8kHz (50% duty)
781
77.76MHz
time

FIG. 51

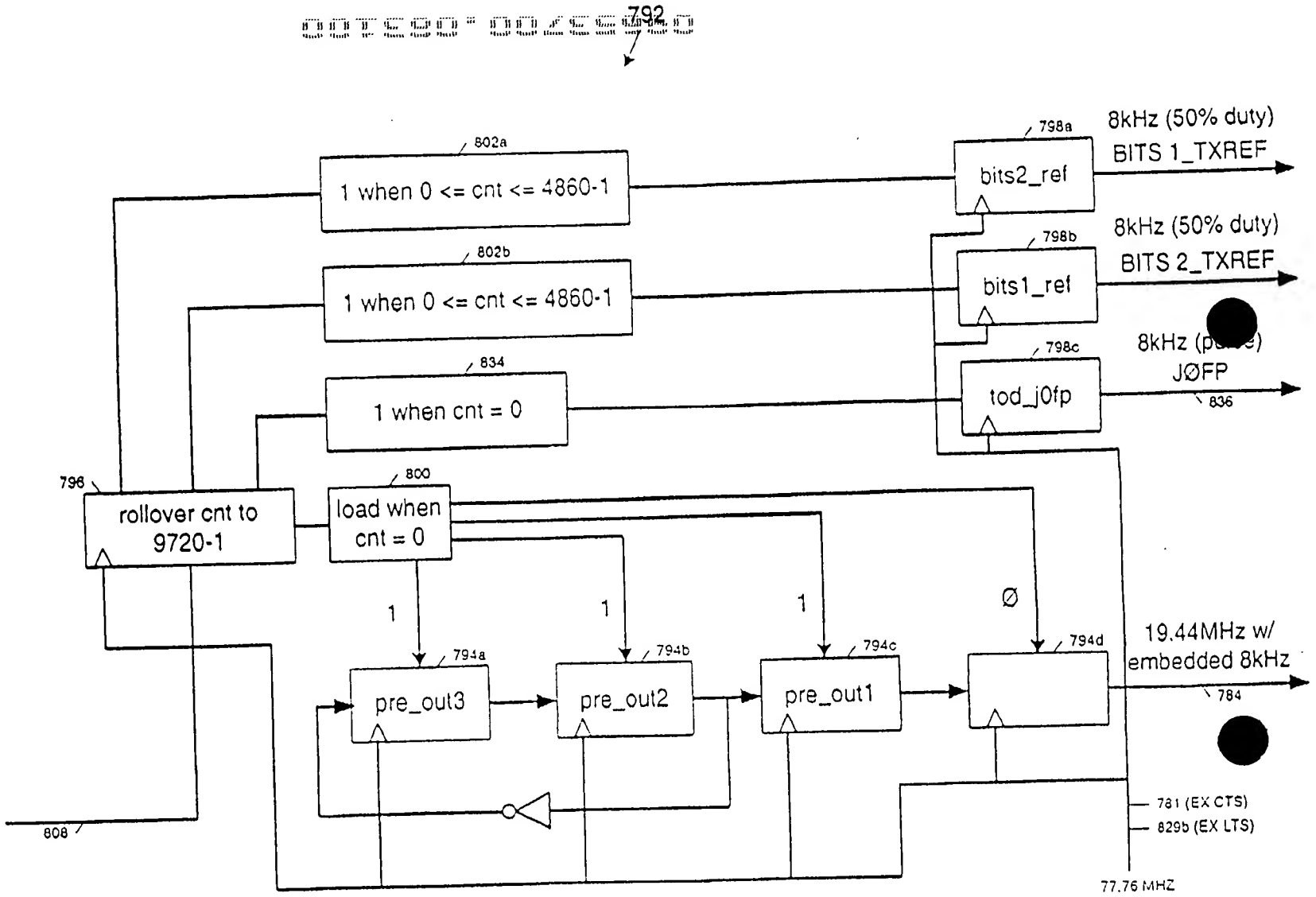
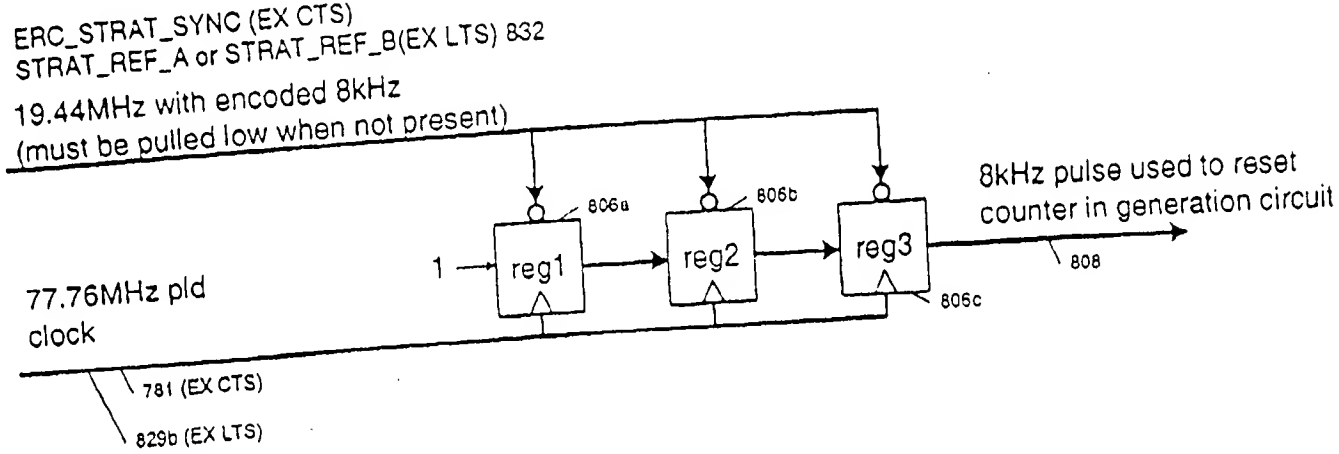

792
802a
1 when 0 <= cnt <= 4860-1
802b
1 when 0 <= cnt <= 4860-1
834
1 when cnt = 0
796
rollover cnt to 9720-1
800
load when cnt = 0
798a
bits2_ref
8kHz (50% duty)
BITS 1_TXREF
798b
bits1_ref
8kHz (50% duty)
BITS 2_TXREF
798c
tod_j0fp
8kHz (pulse)
JØFP
836
1
1
1
Ø
794a
pre_out3
794b
pre_out2
794c
pre_out1
794d
19.44MHz w/ embedded 8kHz
784
808
781 (EX CTS)
829b (EX LTS)
77.76 MHZ

Fig. 52

804



Extractor

FIG. 53

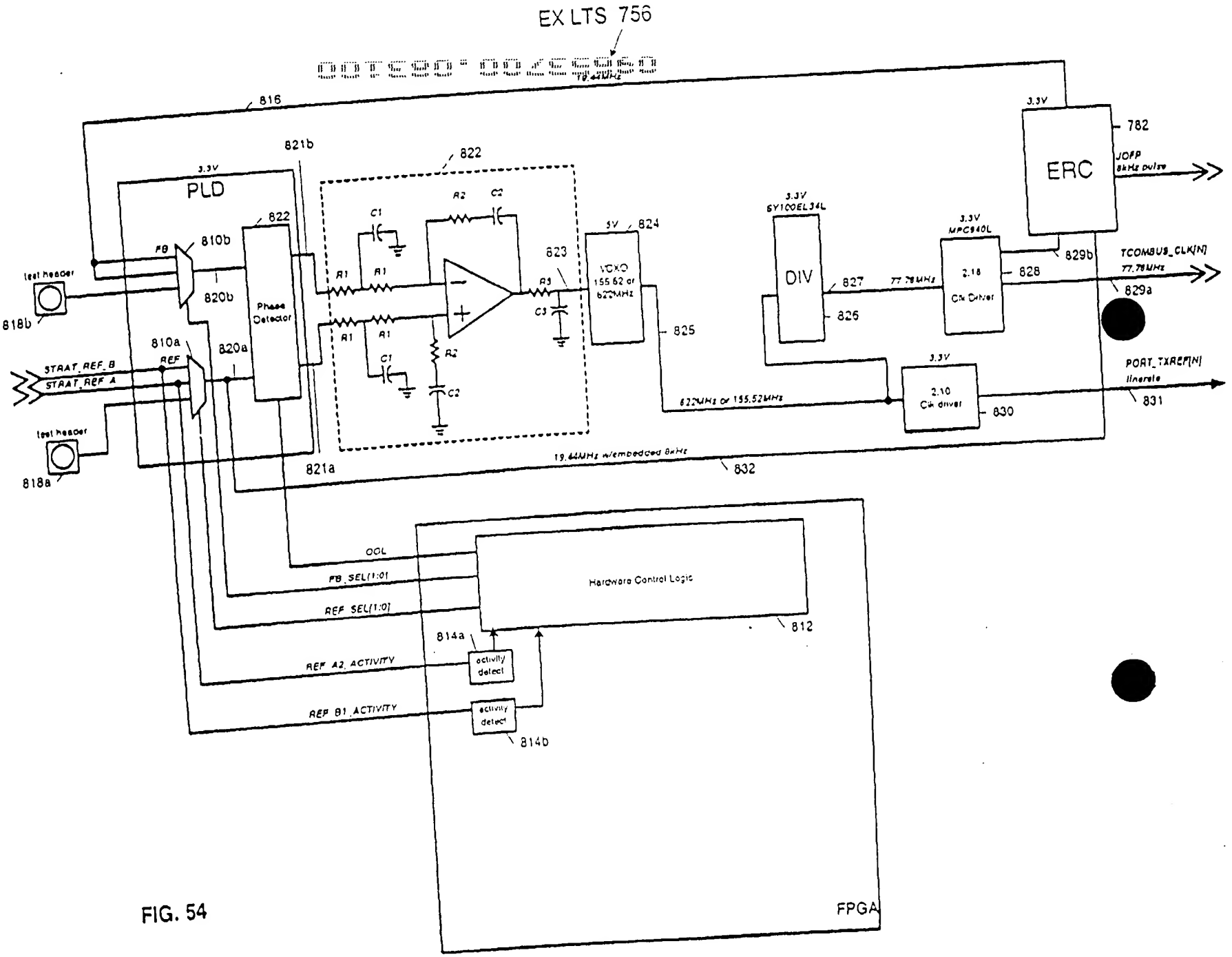

EX LTS 756
816
821b
822
3.3V
PLD
822
FB
810b
820b
Phase Detector
test header
818b
STRAT_REF_B
STRAT_REF_A
810a
REF
820a
test header
818a
821a
C1
A2
C2
A1
A1
A1
A1
C1
R2
C2
A3
823
C3
5V
824
VCXO
155.62 or 622MHz
825
3.3V
6Y1C0EL34L
DIV
827
826
77.76MHz
3.3V
MPC940L
2:18
Clk Driver
828
829b
3.3V
ERC
782
JOFP
8kHz pulse
TCOMBUS_CLK[N]
77.76MHz
829a
622MHz or 155.52MHz
3.3V
2:10
Clk driver
830
PORT_TXREF[N]
Hierarchy
831
19.44MHz w/embedded 8kHz
832
OOL
FB_SEL[1:0]
REF_SEL[1:0]
Hardware Control Logic
812
814a
REF_A2_ACTIVITY
activity detect
REF_B1_ACTIVITY
activity detect
814b
FPGA

FIG. 54

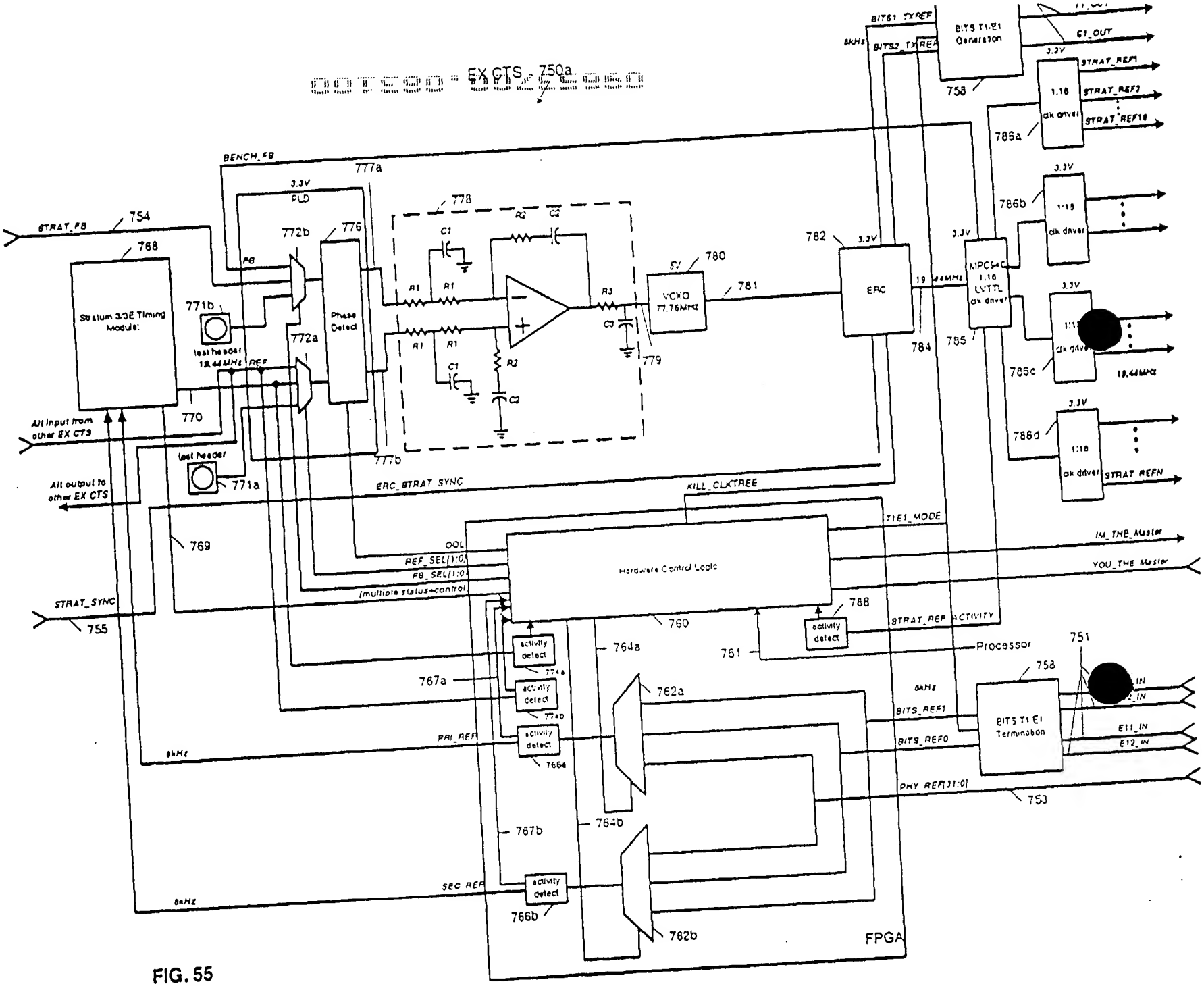

BENCH_FB
777a
3.3V
PLD
778
754
STRAT_FB
772b
776
788
C1
R2
C2
FB
R1
R1
R3
780
5V
VCXO
77.76MHz
781
782
3.3V
ERC
784
785
MPC94C
1:18
LVTTL
clk driver
786a
786b
786c
786d
785a
785c
785d
1:18
clk driver
STRAT_REF1
STRAT_REF18
STRAT_REFN
18.44MHz
Stratum 3/3E Timing Module
771b
test header
18.44MHz
REF
772a
Phase Detect
C3
779
All input from other EX CTS
770
777b
All output to other EX CTS
test header
771a
ERC_STRAT_SYNC
XILL_CLKTREE
T1E1_MODE
769
OOL
REF_SEL[1:0]
FB_SEL[1:0]
(multiple status+control)
Hardware Control Logic
IM_THE_Master
YOU_THE_Master
STRAT_SYNC
755
760
761
788
activity detect
STRAT_REF ACTIVITY
Processor
751
764a
767a
774a
774b
774c
762a
8kHz
BITS_REF1
BITS_REF0
758a
BITS T1 E1 Terminabon
E11_IN
E12_IN
PRI_REF
766a
PHY REF[3:0]
753
767b
764b
SEC REF
766b
782b
FPGA

FIG. 55

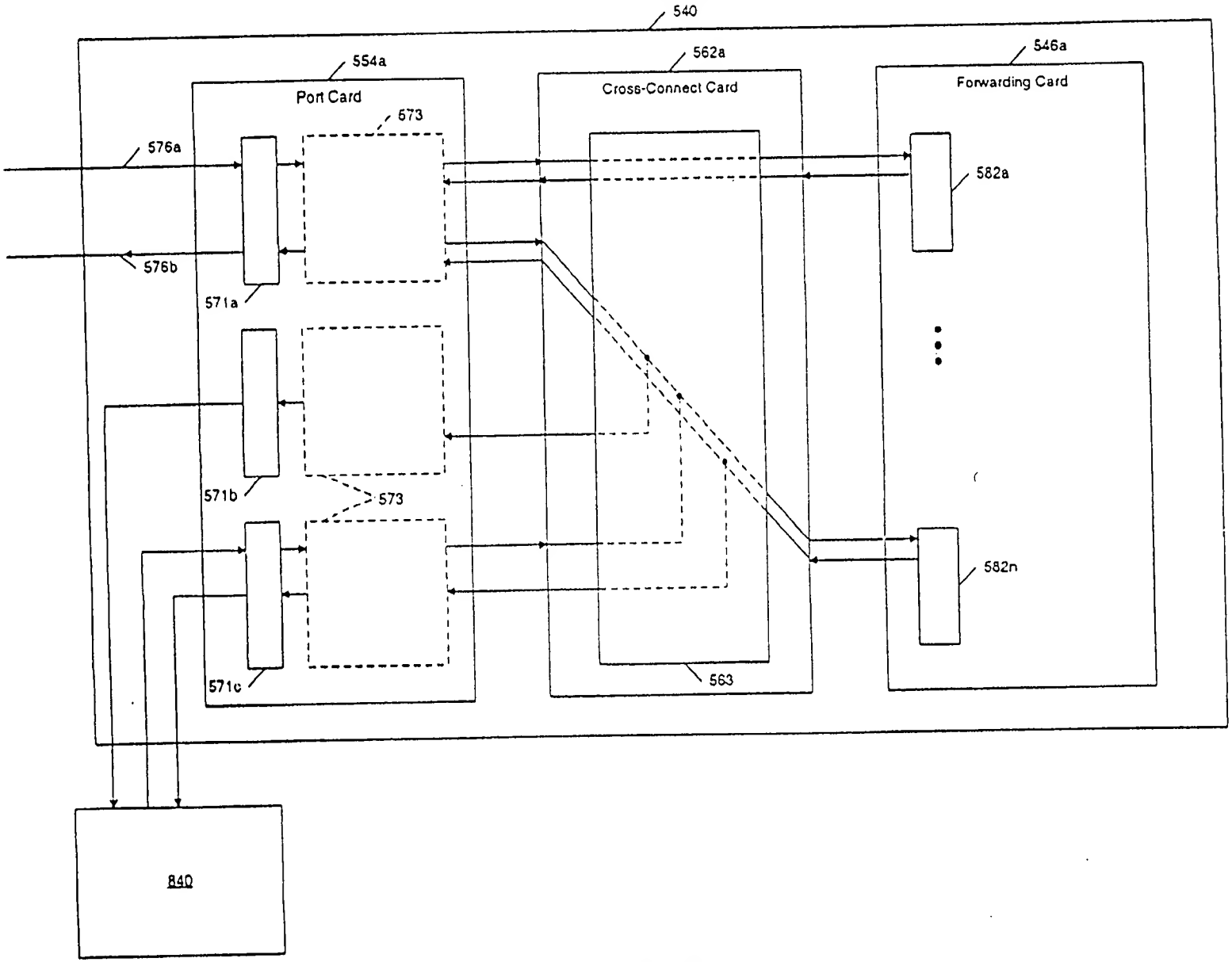

540
554a
Port Card
562a
Cross-Connect Card
546a
Forwarding Card
573
576a
576b
582a
571a
571b
573
582n
571c
563
840

Fig. 56

FIG.57

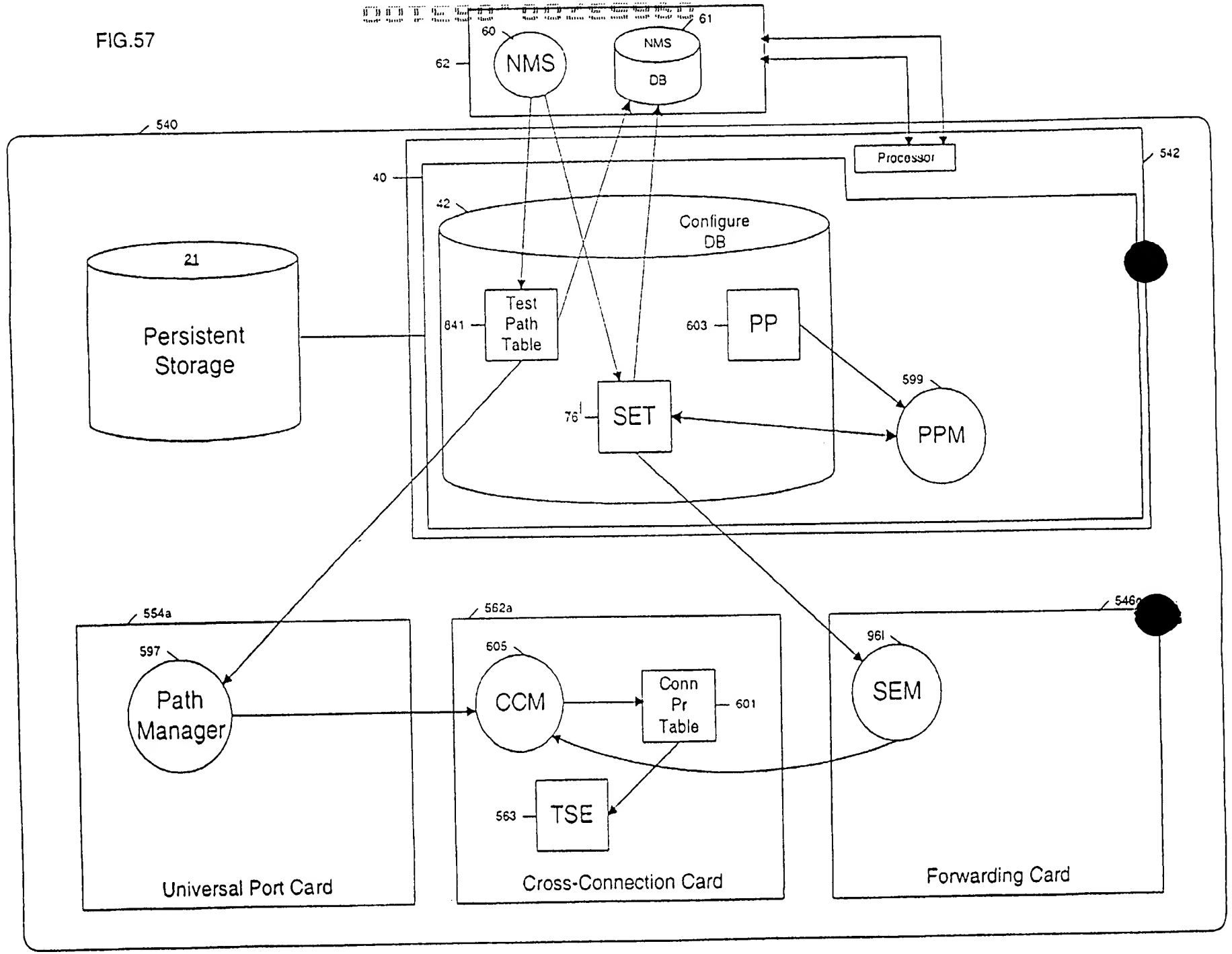

60
NMS
61
NMS
DB
62
540
542
Processor
40
42
Configure
DB
21
Persistent
Storage
841
Test
Path
Table
603
PP
599
75
SET
PPM
554a
562a
546a
597
Path
Manager
605
CCM
Conn
Pr
Table
601
961
SEM
563
TSE
Universal Port Card
Cross-Connection Card
Forwarding Card

FIG. 58

Test Path Table 841

	Path LID	UP Port LID	Time Slot	# of Time Slots	Monitor (844)	Enable Port Receiver (845)	...
842	1666	1232	4	3	Ingress	No	
843	1666	1233	4	3	Egress	No	
844	1666	1233	4	3	Ingress	Yes	
	⋮	⋮	⋮	⋮			⋮

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